



Making a Career in Dentistry.

A City Practice.

By FRANK W. SAGE, D.D.S., Cincinnati, O.

Every student matriculating at a dental college is fairly certain, sooner or later, to feel a longing for a city practice. A young man may have felt contented with the prospect of going back to the small town, village or hamlet whence he came, to practice, until he came to the dental college, saw and appreciated the advantages of a city practice, and so felt a stirring ambition to enroll his name among those of the leaders in the profession there established.

The dental college clinic likely enough, first suggests to the student the possibility of realizing this dream. In the promiscuous assembly of patients attending the clinics, the student sees not a few who appear the equals socially of the average patients thronging the office of his preceptor at home. Judging them by externals, he is apt to assume ability on their part to pay fairly good fees. Indeed, he may find by pushing a little a circle just outside of the clinic, friends of these patients who have no prejudices against a young dentist who does good work and who will patronize him and pay at least an average fee. Thus it comes about that



ITEMS OF INTEREST

before long he has picked up quite a little practice, more or less remunerative, out of college hours. From this small beginning he comes in time to ask himself, "Why shouldn't I get a paying practice right here in this city?"

Back of these reflections are considerations familiar to every student. The young man has heard the admonition, "If you want to make money you must go where money abounds." Doubtless he has visited the offices of half a dozen city dentists of various degrees, taking notes as he went. He has noted various obvious advantages of a city clientele; he assumes that city patients are more appreciative of fine dental services than their country cousins; pay more ungrudging and more promptly; are better trained to business obligations; keep their appointments better; notify the dentist if unable to keep them; and recognize more expressly the dentist's claim to a professional standing and professional consideration.

Other considerations as to the possibilities of superior office equipments come up: the availability of water, of electricity; the proximity of dental supply houses; the privilege of restricted hours, and of entertainment out of office hours. Add to these the elbow to elbow contact with leading representative men of the profession, the dignity of class assumed to attach to a city dentist simply by virtue of his being a city dentist (!) and the wonder is that the fever in the blood of every student in the dental college does not consume him—the fever of desire for a city practice.

The picture certainly is alluring, and if the truth were known, has tempted many an older head to leave a good country practice in order to benefit through the real or assumed advantages of a city practice.

"There are so many repelling features about a country practice," they will say. "Patients come with foul mouths to us, regarding us as no better than scavengers; they track mud into our reception rooms, perhaps bring a dog or two with them to help ruin our carpets. They have no modesty about questioning your prices, they assail your integrity by charging failure when anything goes wrong; they condescend to you, as if you of course prized their patronage above measure. At the best there is so much tinkering and fussing over little things that take no end of time, and yet that you are unable to charge for at all adequately, that one might as well be a cobbler and done with it."

It is no secret that dentists have been driven into other occupations by discouragements of this nature.

"There is no money in dentistry. I intend to give up practice, if I can find anything better," many have said, and are today saying. Numbers make a change, with varying experiences of success or failure, as we all know.

**Importance of
Personality.**

It may be premised in passing that the dentist who is not enough of a manager of his affairs to be able to devise ways for overcoming these peculiar difficulties encountered in practice, will, beyond doubt, be equally harrassed and annoyed by trifling obstacles in any calling he may choose to adopt.

Of course the first consideration presenting to any dentist, young or old, whose eyes may be turned cityward, concerns the matter of money. Everything is secondary and subordinate to that. A dentist will put up with serious annoyances, if paid enough. The mistake outsiders make is in assuming that city dentists escape the peculiar class of evils above described. Human nature is the same the world over, and the country dentist who is annoyed because a patient announced in the presence of a roomful of waiting patients that a filling has come out (while eating soup), will quickly learn that the most exalted of the city dentist's patients do the same thing.

Now beyond question it is true that many city dentists have their practice so organized and regulated that they escape or evade many trying experiences which daunt the country or town dentist. It is all in the man, however; let this statement be appreciated in the outset. Some dentists—some *men*, for it is all a question of personality—so impress themselves on their patrons that they always seem to hold the “upper hand,” as the saying is. I am addressing the young men of the profession now, and cannot too much emphasize the truth that personal dignity, the exhibition of force of character, of honest, earnest purpose do more to repel little liberties of insolence and of impertinence which patients often practice on a dentist, than any special scheme, however ingenious, for impressing them with one's importance. Yet it is for the reason that certain classes of people require an outward show of importance and consequence before they will be impressed with respect for the dentist's personality that such artificial accessories as I shall now name are brought into requisition by certain dentists in cities of the first class particularly.

**Management of a
City Practice.**

Paradoxical as it may seem, one of the first things a “swell” city dentist is apt to do, is to make himself somewhat difficult of access to his patients. He is willing to serve you—in your turn, and in case your demand on him is deemed of sufficient importance to claim a hearing. But you cannot rush up to him as you would to a window at the post-office, throw down your money and back away with your stamps and change all within a few seconds. Oh, no. You call at his office, ring and are ushered in by a charming young lady. She is dignified, suave, attentive, yet you feel that you cannot rush past her and confront the



ITEMS OF INTEREST

doctor unannounced. Perhaps she refers you to another charmer, further back, provided she has not discovered that you want to sell the doctor a book. This guardian of the inner portal offers you a dainty card and pencil, inviting your superscription. The card then passes into the *sanctum sanctorum*, while you wait in the reception room. There you discover several earlier arrivals, waiting in silent patience. A solemn hush broods over the apartments; you perhaps wonder if you ought not to have tendered a fee in advance.

Red tape you call this. Of course it is. Everybody knows it is red tape, and many doubtless go away and poke fun at the doctor's spurious ceremony. But when they receive a bill seemingly out of proportion for the service rendered, they think again about the red tape and pay without protest. (There seems to be a tacit understanding that red tape must be paid for.) Those who cannot pay discover the fact in advance usually. A five hundred dollar "vawse" standing on a pedestal in the hall, and half a dozen fur rugs skating around on the hard-wood floor, make wholly unnecessary any inquiry as to fees.

A city dentist of this class is certain to gain a large following from the wealthy, provided he is master of his profession. He gets well paid for every service.

It would seem that any dentist with money to furnish all the accessories named, provided he be a gentleman in appearance at least, ought to be able to carry his part in such a scheme as this. Nothing is further from the truth. A man is born to this sort of thing. If not, he may dress his office and himself to the last degree, and yet fail. There is really a good deal of humbug about this external show, as the dentist himself doubtless knows. You say there's no particular knack in practicing humbuggery. Oh, isn't there! Do not be deceived; in nothing is more perfect consistency required. A single slip may undo you. Go to the wrong church a few times; carry a bundle along a fashionable thoroughfare; join the wrong golf club and see what happens!

Fashion in dentistry as in other matters is a jealous mistress, and must be served just so.

Next below these men, in point of grandeur, pomp and all that, comes the numerous class of dentists who put on more or less style, some more, others less. Numbers of these dentists imitate the methods of the very stylish men already described, yet fail to attain the high degree of success supposed to be theirs. Others, conscious of not being equal to such things, make no attempt in that direction. Would not if they could cultivate the petty arts of these men. It is after all largely a matter of taste. Some even declare they do not want the patronage of the very wealthy. They esteem the second grade of wealthy people, or even the fairly well-

to-do, as better patients in all respects. It is an open question, of course.

You may enter one of these offices with less ceremony than is required of one visiting the very swellest offices. More or less red tape is discernible, of course. The man who uses none at all is rather apt to find himself at the mercy of numbers of well-meaning but pestiferous people who are heedlessly annoying in all the ways country patients are, and superadd a choice selection of peculiarly exasperating ways calculated to drive a dentist mad. For instance there is the woman who telephones to change her appointment, telephones later that she has reconsidered and will come, and winds up by coming three hours late, making you miss a train. Many good church members, Sunday school teachers, who ought to have learned to do to others as they would be done by, seem to forget that dentists deserve a share of such consideration. They would be fined ten dollars for each offense of the sort by some high-class dentists. But the poor dentist who has no system, who keeps on day after day hoping vainly that people will in time learn to be as considerate of his interests as he claims to be of theirs, will sink from one depth of humiliation to another, and it will never occur to him that he is wholly to blame, because he has never given his patients to understand that he has certain rules mutually of advantage to himself and his patients.

It is all in a lifetime, and some dentists seem just as happy and contented without any rules or system in their offices, and without any money, for that matter. Which is certainly very fortunate.

Competition in Cities.

It is not necessary to subdivide these classes, as might be done. For all practical purposes as regards the question what may the young dentist expect who turns his face cityward, the enumeration of classes of professional men in dental practice there, with whom he must associate and probably compete, is complete enough. There are the advertisers with whom all other classes must compete. Rather, it may be said, against whom all other classes are arrayed. However sturdily the established "regulars" may disclaim competition with them, the newcomer can hardly disregard them in estimating his chances of gaining a practice. Many intelligent, self-respecting people do patronize the advertisers. It seems that an outsider may have no regard whatever for dentistry as a profession, and yet hold a fairly elevated position in society. Let us not be deceived. Professional men have come more and more, of late years, to depend for the respect and confidence of those out of the professions upon their individual qualities, not on the accident of association with others calling themselves as a body a profession. Which is as it should be.

Now the suggestion is, finally, to every student, to every established





ITEMS OF INTEREST

dentist elsewhere, pondering the matter of coming to a large city to practice, to place himself squarely before a mirror, look himself carefully over, and ask himself impartially, am I adapted to the requirements of a city practice? It seems there are the extremes of patronage for which a dentist who achieves much of a money success usually aims. The one is, the very wealthy, or, at least, the exclusives, refined, well-to-do people, who care something for style, and who go to a certain dentist because he is in a way exclusive, restricting his practice to their class. The other extreme is represented by the thousands of any class who may be drawn in by specious advertising and whose needs must be met by hiring a corps of assistants. The idea is, get the work done with despatch, get the money, start in with another patient without loss of time. This practice is usually called a business. And a business it is.

To state the sum of the matter, a dentist coming to the city must be either a "business" dentist, or he must possess the somewhat artificial ways and devices of the ultra-fashionable, in order to make any considerable impression. Otherwise he might as well stay in the country. For the middle and lower grades of people who patronize a dentist at all, in the cities, are quite as likely to prove unprofitable to the dentist as are the average classes in smaller places, or in the country. It is safe to say there is a much larger class of people living from hand to mouth in cities, who at the same time seem to be fairly well-to-do, than the country affords.

The dental colleges are themselves a serious menace to any but the higher classes of dentists in any city. It cannot be longer denied. Many who once patronized the middle class man now go to the dental college clinic. It is the fashion to decry the quality of work done in the colleges, yet the fact remains that much of it is excellent.

So then this is to be considered by the student thinking of locating in the city. Let him not be too well assured that he will find it all smooth sailing. He might oftentimes do quite as well in the country, if he would try the experiment of putting on a little style and perhaps some restrictions. Human nature is the same the world over, or for all practical purposes we will say, "the United States over," and it seems necessary to guard against invasions of one's rights in every business and profession. You yourself, no doubt, often invade innocently even other peoples' rights. You perhaps enter a store, asking permission to leave a package awhile, and it never occurs to you that fifty others do the same thing at that same store every day. Fifty responsibilities thrust upon some clerk, each trifling, yet all taken together no doubt burdensome. And no suggestion of compensation.

**System Important
in Any Practice.**

The dentist in country or city needs to protect himself against people who think altogether of their own convenience, and really ignore his in an innocent way. They tell you to make the appointment for a certain hour, then casually suggest, as they go out, that if they fail to come then, expect them at the same hour the following day. Ignorance, thoughtlessness, nothing more. They want to see you only a moment and keep you half an hour; send word that the work required will take not over an hour, and when you see them you find it cannot be done at all. And so on. We all know.

The dentist must cultivate system, in city or country. Must fend people off, as it were. Not to their serious inconvenience, of course; anything that serves as a hint is sufficient. A fair play suggestion, it may be.

An attendant to stand between the dentist and callers pays for herself by the impression she makes. Appointment cards should be used by every dentist. Let your patients understand that you prefer not to make an appointment until you have seen what is required. Many absolutely decline to do it or exact a fee for the hour reserved, whether the full time is required or not. A professional friend said recently, "A dentist is either in the profession or out of it." (Meaning that there is no half way course.) If the dentist is part dentist, part politician, part anything else but dentist during office hours, he will be rather sure to neglect these little items pertaining to system and will come more and more to feel the annoyance of his patrons imposing on him.

Dentistry, an Art or a Science, Which?

By Dr. GEORGE H. BELDING, Milwaukee, Wis.

What one hundred years ago was a crude trade juggled from blacksmith to barber, has grown today to be a great profession doing for humanity an estimable amount of good, by preserving health, beautifying personal appearance and adding to the general comfort of mankind.

Out of this growth and unfolding of the dental profession has developed two schools; one teaching that to be a dentist means to be an artisan, a skilled operator, an expert doer of things; a possessor of technique and manipulative ability. To the other school belong men who look deep into the mysteries of dentistry, the ones who class dentistry as a part



ITEMS OF INTEREST

of medicine and who find in laboratory experiments a means of broadening our profession.

The first school for a standard takes Art, while the other school holds Science up as her guide and director. Much of dentistry is art. Art in dentistry is the doing, the constructing. To insert beautiful gold fillings, construct with a trained eye and an educated finger porcelain inlays, manipulate filling materials with exactness and precision, make and adjust regulating appliances, construct plates, crowns and bridges is art. To extract teeth is art. To manufacture obturators and splints is art. Art in dentistry is the manipulating, the operating, the completing.

On the other hand, science is the knowing. To know that correcting irregularities will restore normal occlusion, which in turn will cure defective hearing, neuralgia or headache is science. Science enables us to recognize disease, to differentiate one disease from another and to treat disease successfully. To know what teeth must be sacrificed to the forceps and to know when to extract deciduous teeth is science. To judge of the texture of the mouth that we may construct or have constructed a plate along lines that will make it useful to the wearer is science. To study conditions by comparing the normal with abnormal that we may be enabled to distinguish pathological functional disturbances from metabolism is science. To trace some local manifestation of pain in the mouth to some diseased condition of the general system or to note some general diseased condition as the effect of some local lesion is science. The bacteriology, histology, pathology, physiology, anatomy and chemistry of dentistry is science.

Art in dentistry and science in dentistry have each grown to such large proportions, that but few men can attain eminence in both. The men standing for art, hold that too much time is spent with our students teaching them the science of dentistry and that they receive too little instruction in manipulative art. That students are taught too much bacteriology and that too little stress is laid upon the importance of practical prophylaxis. That too much study is given to general anatomy and not enough time to the anatomy of the mouth, nose and throat.

The science men tell us these same students have not sufficient knowledge to enable them to correctly diagnose disease nor to successfully treat pathological conditions. Both claimants are right and to better this condition is what we must strive for. Perhaps we cannot arbitrarily divide our work into two distinct branches, that is, we cannot learn art without learning some science, nor can we learn science wholly isolated from art;

yet sooner or later that we may become competent either as an art dentist or a science dentist, we must divide our work. Some of us must do the mechanical part and others take up the scientific part and become science dentists. One the art dentist, the other the doctor dentist. As a skilled operator, the American dentist has reached a high mark and his reputation in this line has reached the zenith; but we have a field in dentistry, broad and almost unoccupied, to fill.

**The Realm of
Stomatology.**

Unless the dentist fits himself for this work, it must go undone, for the average physician is as ignorant of the diseased condition of the mouth as the average art dentist is. To occupy this field, we must know more of oral surgery, more of oral hygiene, more of the cause of caries, more about abscesses and their treatment and much more about the different forms of gingivitis. How few physicians recognize pyorrhea and understand that the stomach will be deranged because in this disease the acid secreted by the stomach is not sufficient to disinfect all the pus passing into the stomach of a pyorrhea patient. We should know more of physical diagnosis that we may determine how severe an operation our patient can endure in a dental chair without suffering from shock. A correct physical diagnosis would in a large majority of cases enable us to decide as to the advisability of administering a general anæsthetic. To treat and diagnose different forms of stomatitis, different forms of gum lesions, to treat neuralgia and trace its effect to the cause; to make a diagnosis in obscure cases, should be our great aim.

To prescribe for a patient whose general health is suffering on account of diseased teeth or gums, to successfully treat sinusitis, empyema of the antrum; to perform operations in the mouth, such as replanting, implanting, transplanting, removing growths; perform operations for cleft palate, hair lip; make exsection of the maxillary is the work of the science dentist; but more he must do and that is he must be able to treat the patient's general system before and after the operation. He must know when to operate and when to refuse to operate, and this is ascertained only by knowing the patient's general condition. A patient suffering from nephritis in its different forms should be refused an operation by the oral surgeon and the only exact way to recognize these conditions is to make a urinary analysis.

If a patient presents to his dentist a condition showing an opening through the hard palate caused by a syphilitic ulcer, the dentist should not only treat and provide covering for the local lesion, but to attain the greatest success, he should prescribe for his patient's condition by instructing him to clean his mouth thoroughly three times a day, live on a liberal diet and refrain from eating green vegetables and fruits. For





ITEMS OF INTEREST

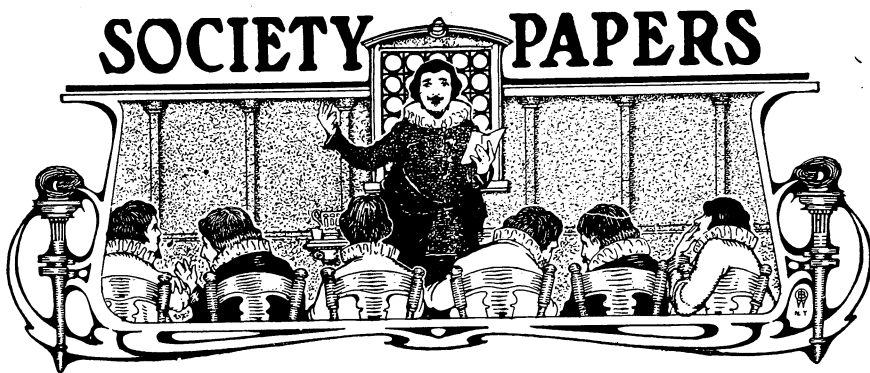
medical treatment use iodide of potassium and mercury given in milk. In all cases the operator should, if possible, associate the lesion in or about the mouth with some general condition and treat in the best possible manner.

A Seven Year College Course Suggested.

Having made an effort to show that our work in dentistry should be divided into two distinct classes, I now propose this plan for our colleges: that two courses be instituted, one requiring seven years and the other four. That each student according to his or her tastes may fit himself or herself more thoroughly in one or the other divisions of dentistry, one teaching all of the science and the theory of art, the other teaching all of the art of knowing how and little of science. One course teaching how to treat disease and pathological lesions successfully, the other course fitting us to become skilfull and mechanical operators. One teaching the practical side of scientific dentistry, the other teaching the practical side of manipulative and artistic dentistry.

Now which shall we choose? Shall we strive to learn more of science and help raise the profession to the standard of medicine, or shall we be art dentists? Shall we be of the class that execute or of the class that direct? Shall we be the imitators or the originators? Shall we be one of the employed in an office making porcelain inlays, filling teeth, making plates, constructing crowns, bridges, etc., or shall we be the one at the head of the office whose scientific knowledges enables him to diagnose each case as it comes and to dictate such operations as is best indicated in the case?





Some Faults of the Prevailing Dental Training.

By J. D. PATTERSON, D.D.S., Kansas City, Mo.

President's address before the Institute of Dental Pedagogics, Buffalo, Dec., 1903.

In directing attention to this subject I must disclaim any intention to criticise without an ultimate object, and that is to assist in the correction of errors which seem to have been grafted firmly upon the system of dental education. "It is easier to be critical than to be correct," said a noted Englishman, but it must also be remembered that unless there is weakness in the thing criticised there can be no strength in the criticism.

The faults which I desire to mention and comment upon may be divided into two classes:

First: Faults fostering a low grade of professional spirit.

Second: Faults in the methods of practical and theoretical instruction.

Dentists Not Respected by the Public.

It certainly needs no argument to support the statement, when I say that the public does not accord to our calling the need of respect and honor which we believe it demands on account of the benefits it confers in giving comfort to human beings, and which it does accord to ministry, the law and to medicine. I think I am safe in asserting that each of us has repeatedly suffered from some humiliation caused by slighting allusion to the status of the dental practitioner. Is it deserved? I think it is. Can this be corrected? I firmly believe that within a quarter of a century public opinion can be moulded aright in this matter, and



ITEMS OF INTEREST

I believe it is the duty, within the province, and perfectly possible, that the Institute of Dental Pedagogues can bring about the change.

In proof of this statement I place before you the following summary of facts: *In any profession its dignity and high regard in the eye of the public must ever be dependent upon the individual personal influence of each of its members.*

The public cares nothing for us save as individuals, or groups of individuals, but the individual gives the true standard of respectability of the profession to which he belongs. Now where does the responsibility lie in the selection of individuals and the moulding of them who will hereafter dominate the standard of the dental profession? Does not the responsibility lie with this association?

In these times, no one (save in isolated cases) can gain entrance to the dental ranks save through the medium of the Dental College. The faulty result of dental teaching lies either in accepting unfit students or in the faulty teaching of those students. The teachers are the ones who determine or advise what the preparatory ability of a student must be as well as guiding him after acceptance, for in no one of our colleges is the business management separate from the teaching force. You may declare that this association is solely devoted to elaboration of teaching methods and that the questions of legislation and administration lies with the Faculties Association and should not be touched upon here. In answer I will say that the divorcement of the consideration of methods of instruction from the consideration of methods of administration in my opinion is an impossibility. The segregation of related interests in our professional advancement is unwise, and if this association is in fact, as well as name, a National one, no discussion of teaching methods is logical if prominent factors in dental education are tabooed.

Again, the National Association of Dental Faculties whose objects are supposed to be varied, among which is the subject of legislation, administration and police control over dental education, *is a legislation body which too often does not legislate; an administrative body that does not administer*, and whose requirement of obedience to rules is elastic, varied to suit the individual case. The Faculties Association in late years has made the mistake of apparently believing that better dental education is measured by increase in the length and number of courses instead of making a better selection of talent and acquirement. The prediction is hazarded that extension of number and length of courses will tempt to accept still more of kindergarten material with the idea that the lengthened time will allow for making up deficiencies.

The desired work of improving the standard of the graduate cannot be left to that association, for it has not been faithful to its trust. I speak with all calmness and certitude, and the record will substantiate me in stating the claim that since the Faculties Association in 1897 in an illegal manner abandoned the advanced standards which it had adopted in 1896 and which advanced standards in their elaboration would unquestionably have brought a rapid advance in the professional standard in dentistry—that association cannot be credited with any advance towards making our calling dignified and professional. The average intelligence of the student in late years has not improved, and a same dead level of indifference to everything but a diploma and the money it will enable them to grasp, exhibits itself in the great majority of those we are called upon to instruct. The result is the multiplication of low grade practitioners, who in their student hours give a smile of derision when an enthusiastic teacher pleads for a high plane of living and doing in dental professional life, and whose name after graduation is found in the cheap advertising page, or as the employee of the "Dental Parlor" proprietor. As the years have gone along it has been the hope of the enthusiastic that the personelle and intelligence of students would steadily improve. To those who have carefully observed the subject the hope has died, and they turn to seek a new and different force for uplifting. The treason of 1897 and its results stamps distrust on the idea that any good along the desired lines shall come out of the wisdom of the Faculties Association.

To what agency then shall we turn in the emergency? *Undoubtedly to this Institute.* It is not my purpose to advise this body to legislate, but it can so advise and *insist upon reforms that reform will be brought about.* If each individual in this body will pledge himself to demand better material, that can be moulded into gentlemanly behavior, as well as superior, practical acquirement, there *must come a practical result.*

<p>Count System of Credits.</p>	<p>Under the first heading the second error I will note is that of ignoring the Count System of Credits, both in preliminary requirements and in the actual training. This will only receive a brief attention.</p>
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It seems strange that when a perfectly feasible method of positively perfecting credits for acceptance and advancement is at hand, that it has been rejected by an almost unanimous voice in the Faculties Association in 1897, and the same fate will probably be given to the measure in 1904. We crave the careful consideration of every member of this institute to this measure and his support for its adoption in dental education, so that credits either for preliminaries or advancement shall be *alone by merit for work accomplished* and certified to and not at the behest of in-



ITEMS OF INTEREST

dividual minds or for any purpose ulterior to the best in dental education. Every member of this institute should support the movement which is again attempted, and endeavor to place dental education on the same basis of credits which has been adopted by the best literary and professional systems in the old and new world.

The Teaching of Dental Ethics.

The third fault which I notice under the first head is that our teachers do not teach professional ideas and duties sufficiently. They should make it convenient to frequently explain what constitutes a profession—why dentistry is a profession—should combat unprofessional ideas, and illustrate how degrading is their influences. It should be taught daily that no profession more demands the gentleman than ours. *This teaching should be a keynote.* There are those in our classes, who otherwise are acceptable students, but whose knowledge of the duties, and obligations pertaining to professional life is entirely wanting or at best is extremely vague. To them it must be taught and *earnestly* taught. The teacher must do this both by precept and example, for each one must remember that "*professions pass for nothing with the experienced when connected with a practice that flatly contradicts them.*" The teacher by personal example then must teach professionalism. If they cannot, or will not do this, there is, in my opinion, no place for them on the lecture rostrum in the laboratories or the infirmaries of a dental school as instructors of young men who some near day must necessarily dominate the profession of our choice and by their fruits decide whether its future shall stagnate, retrograde or improve. When our eyes view the average grade of intelligence in our graduating classes of today tend the will of the duty of professional men is there not often a shiver of apprehension? The question surely demands a very careful consideration from members of this body.

The Rejection of the Unfit.

Lastly under this head we come to the fault in dental education which is presented in the fact that when dental students give positive evidence of their unfitness for the profession, they are usually encouraged to continue instead of being earnestly advised to abandon the work, or even commanded to do so. In earlier days the apprentice system did the winnowing, and the student who was unfit was so advised and discharged from the office of his preceptors. Personally I know of two such cases in the office of one of my preceptors in 1865 and 1867, and I know of other instances. This, it must I think be acknowledged is an admirable feature of the apprentice system and one of the reasons which has

caused the writer to advocate that system as a prelude to dental college training. In the college this winnowing has not been accomplished. The student, without his own knowledge, or the knowledge of any one else, as to his fitness for dentistry, very often comes to the college from a long distance under a considerable expense, with ideas undefined except as to the curious belief that dentistry affords "*an easy way to make money,*" and when he finds himself mistaken it is usually impossible or impracticable to recede, for money has been expended and the expectation of relatives and friends must not be disappointed. He must "*Willy Nilly*" proceed. He does so, and the profession is burdened with his compelled presence. Every teacher in this association should *strongly* advise the unfit student at the earliest possible time to seek other avenues of life work, even if it is at considerable sacrifice. The apprentice system is evidently impossible as a compulsory measure in this country; the sentiment is, I think, strangely against it; therefore, if a student leaves the work after entering college, it will be by the teacher's advice. I *counsel to give such advice*. If it is given through correct motives and on un-mistaken evidence, it will, I assure you, usually be followed, and the teacher will thus do his share to mitigate this faulty and unfortunate situation.

Diverse Teaching in College Courses.

Under the second head of this division of our subject we come to the fault found in the lack of co-operation and uniformity in methods between lecturers and demonstrators. In the major part of teaching there is a standard which should admit of little variation or at least of unimportant variation, but we are confronted with the fact that the lecturer advises certain lines of practical procedure or gives a theory which in the laboratory or infirmary is diametrically opposed or seriously modified by the demonstrator. So has arisen much confusion and has lead the student to uncertain results. Such is not the case when the professor superintends in the infirmary what is said from the lecture stand, but personal observation teaches that very, very often the lecturer is not a visitor to the infirmary or the laboratory, and those demonstrating do not harmonize with what has been said from the lecture stand.

Again, different demonstrators recommend and direct opposite procedures when only one method should prevail. This fault should be corrected by the selection of only experienced teachers—and frequent faculty meetings in which the teaching should be so far as possible along uniform lines. This brings us to the fault of employing men as teachers and demonstrators who are of indifferent skill and limited experience, and who are secured at a salary which never can obtain the best service.



ITEMS OF INTEREST

Lack of Demonstration.

The next fault we notice, and a most noticeable and direful one, is a too limited number of demonstrators in laboratory and infirmary. The instruction and detail in practical work can never receive the necessary supervision which is due the student and which is absolutely necessary while one demonstrator has under him so many pupils and so many operations which demand his attention in the same hour. Personal experience and close observation convinces me that this fault is most serious. I have never entered laboratory or infirmary in the college which I am connected, or in those of other schools members of this association, but I am confronted with this fault. Each demonstrator in the busy hours on account of the number of students under him has so many demands upon him that if he devotes necessary time to a few, the many are neglected, and if he endeavors to direct all, he does it so imperfectly and hastily that nothing is done satisfactorily either to himself—the student, or the patient. I hear you say that this is well known and admitted, but why find fault unless a remedy is offered? Very true—the criticism lies—but I do propose a remedy and the remedy must be in increasing the tuition fees so that additional and experienced teachers may be provided.

College Fees Should Be Increased.

These faults last noticed, viz.: employing as teachers men of indifferent skill and limited experience; who can be secured at a low salary; and upon whom we place work enough for double the number, can only be remedied by securing the means requisite to employ the best skill, matured by wide experience, and in number sufficient to thoroughly supervise and direct each student.

Is the means now at hand? I think not. Experience has taught me that usually the colleges have provided as many and as expensive teachers as the dues paid will permit. Those who think differently are usually those without experience in the financial affairs of dental colleges. This being true, what other remedy have you to offer. The best teaching talent *cannot* be secured in these days without competent remuneration—their number *cannot* be increased without the increased income. Let us provide the the means. Let us relegate the under graduate and the recent graduate teacher to where he belongs—to the world of experience and give to those competent men who now teach, a proper fee and secure others of talent and experience to assist them.

I therefore bespeak the effort of each individual in this institute to a sufficient increase in tuition fees. I believe a united effort would convince all concerned that this can be done, and that it would be a step in advance of greater benefit than adding another year to the course. The

foreign dental schools of prominence usually receive a fee of £50 per term, nearly \$250 of our currency, and their expenses are less because they do not require the equipment for practical work which is so expensive, as their students receive that instruction under their preceptors to whom they are indentured. Why should we not profit by their example in this matter of tuition? At any early period in the history of dental education when teachers, many of them engaged in teaching without money recompense because they deemed it a professional duty to instruct new men to meet the great need of dental service, and when students were not so numerous, the fees for tuition were placed at a nominal sum. It was all that was required at that time—the fault has been that they have not increased with the demands of the day, which compels larger outlay for competent dental instruction. The salary list of the really competent demonstrators who give the college a larger portion of their time in every college I have investigated, is grossly inadequate and the position is not retained long by them and is used as a “pot boiler.” This is a fault. The salary of the competent should be commensurate with a dignified position. Of the *incompetent* and inexperienced what shall I say? College men declare that they are unable to avoid their employment; that they cannot afford to pay the best men very well. Let us concede that this is true, and let us rapidly place ourselves in a position to afford the best, for of all departments of dental teaching the demonstrator is the one who should without exception be at the front rank.

At the last annual meeting of this Institute, Dr. E. J. Darby made a statement which created something of a sensation. He said, referring to the earlier dental college training, “*We made better dentists then than now.*” He referred to the practical work then and now. The observation was made by a careful man who had no remote idea of stating anything but what experience and observation warranted. I think the statement true and that the older men of this association must subscribe to Dr. Darby’s opinion. Personal observation and contact has taught the writer the utter helplessness of the majority of students who have come to the end of their college course—when confronted with practical cases a little out of the ordinary. What has caused this condition? Is it not caused by some of the faults above noted? In early years when the student came up for graduation at the end of one or two years, he almost invariably came to the college with practical experience, gained from a private pupilage usually, and this advancement has not found its prototype in college training. The college has failed to “make good” in this matter. Students are herded together, known by a number. The shepherds are too few and many of them incompetent, and that personal supervision which is so necessary in a calling which is so largely mechanical and which re-



ITEMS OF INTEREST

quires personal and repeated direction for the attainment of manipulative dexterity has not been afforded. The question is certainly a vital one. If the college training in any department is sending out a product inferior to that of past years, it is certainly time to make a reckoning and find the fault. Is the practical instruction deficient? The theoretic curriculum too burdened? or the student of such inferior moulds that the finished product is misshapen? These are questions for this Institute; they will not be settled elsewhere.

In concluding I thank you for the honor you have given me in electing me to the highest office in this association. I am very jealous of the distinction. I hope that our conferences at this annual meeting will result in improvement individually and collectively.

Discussion.

The question of education will always remain
Dr. R. H. Hofheinz, a fruitful text for unlimited discussion for any
Rochester, N. Y. gathering of this kind.

I have been asked to discuss the paper of our worthy President, but after looking over the epitome he sent I could find little to discuss. My views coincide so much with Dr. Patterson's that I can only reiterate his opinions and recommendations in my own language.

The Doctor divides his paper into two great halves: The deficiencies which arise (1) from a lack of education before entering college; (2) from faulty instructions after having entered college.

To accept students of inferior preliminary education is the greatest fault I can find with all our dental educational systems. This question alone should suffice for a good long essay. No additional years of college or university teaching can compensate for the defectiveness of early intellectual training.

The Germans demand nine years of Gymnasium before they consider the mind ripe for university lectures. The introduction of a four years' university course can never compensate for early deficiencies. The mind must have proper shaping in youth to form an intellectual storage battery for our university teachings, and I am almost inclined to think it more important for dental students than for any other. Most of the scientific studies require a cerebral effort only; whereas, in our case, the manual, the technical development consumes much of our college time. It is the early part of life which is a period of plasticity, a period of adjustment—of a physical adjustment—and then an adjustment on a larger and broader scale.

N. M. Butler says: "There are in the United States no obstacles interposed between the college and the university. We make it very easy to pass from the one to the other; the custom is to accept any college degree for just what it means. We make it equally easy to pass from one grade, or class, to another, and from elementary school to secondary school. The barrier between secondary school and college is the only one that we insist upon retaining."

Gentlemen, it is, however, not only the quantity of preliminary knowledge which proves a telling factor in our dental education; it is the quality which our president has well emphasized.

Three years ago I chose this question for a paper before the National Dental Society. My opinion on this subject remains unchanged and I take the liberty to quote from aforesaid paper:

Manual Training. "I make the broad statement that a student who under favorable conditions has not developed some manual skill at the age of eighteen—the time for college entrance—does not possess the physical requisities of a good dental operator. In my estimation we should be in position to judge the physical the same as the mental equipment of the dental student previous to college entrance. The student who is not naturally endowed with a reasonable amount of manual ability will never become the dental operator so much needed."

Manual dexterity is but the evidence of a certain kind of mental power, and it should go hand in hand in its early development with that of the mind. This education belongs to the secondary schools, and if this quality is insisted upon as a preliminary requisite, the possibility of unfitness during college life, of which Dr. Patterson speaks, is reduced to a minimum.

Professional Ethics. Much stress is laid in Dr. Patterson's paper upon the fact that professional ideas are not sufficiently taught in colleges; that the teachers are lacking in the proper spirit of directing the students toward professional honor and ethics. I am of the opinion that you may teach ethics in dental colleges to a large number of students until Doom's day without accomplishing the desired result.

Why? Professional instinct, reverence for scientific achievements, the proper feeling for ethical culture, belong largely to early home training and proper, elevating environments outside of a college. The young man, endowed by Nature with a spirit of commercialism, the predominating characteristic of our time, can never grasp the meaning of professional refinement at the age of twenty, no more than the man who enjoyed "rag time" music only, up to that time, can ever really appreciate



ITEMS OF INTEREST

the celestial meaning of a Beethoven adagio. The wrong in this direction is usually done, and permanently done, before the student enters a dental college. This, however, does not deny the necessity of ethical teaching in our colleges, and I should consider myself very inefficient in performing my duty, did I not constantly endeavor to lead the student's mind to a proper and correct understanding of professional honor.

There is no better mode of showing proper professionalism to the students than the conduct of your own practice. This is the best object lesson you can give students at that time of life. Nothing will impress the students with a higher regard for professional loftiness than the success which a teacher has to show through the application of these very principles.

All teachings of ethics in the lecture room smack of absurdity and lack sincerity, if not properly sustained by the teacher's own methods in practice. The man who cannot show through his own conduct in life the very pathway to ethical professional success, has no moral right to pose as a teacher.

The other great fault Dr. Patterson finds in college teaching is the inefficient number, and, often, poor quality of demonstrators. This is certainly a most vital question. A large number of our dental colleges are without endowments, and therefore exclusively dependent upon the income from the students, a condition which necessitates economy and very often in the wrong place.

I would rather have one competent demonstrator in my infirmary than half a dozen incompetent ones. I have often endeavored to settle the relative necessity of one demonstrator to a certain amount of students, but I found it impossible, owing to the difference in the quality of students which each class presents. The consensus of opinion of our demonstrators and myself is, one demonstrator to ten students. I have repeatedly seen one student able to keep all the demonstrators busy which our university could furnish.

There is but one ideal way of teaching, and that is to study the individuality of your student and teach according to its demands. If I were rich enough I should create a fund for that purpose and prove to you results such as Froebel has given to the world in his kindergarten system. I never have and never will permit any difference of infirmary practice from my method of didactic teaching. Dentistry is not a very broad profession, but it certainly permits numerous ways of execution. It is utterly impossible, without confusing the minds of beginners, to teach definitely more than one system, and that should be one based on successful and progressive methods. Other operative methods

should be alluded to and teaching should thus be cosmopolitanized, but neither the mind nor the hand of a student should be allowed to wander in all directions, without a positive method, which must prove the foundation for all possible future ramifications.

If what Dr. Darby said is true, that "We made better dentists then than now," it is our duty to find the cause of such retrogression. The proper way to reach that end is by such frank presentations of our faulty methods as Dr. Patterson has given us, and by intelligent criticism of such faults.

No profession has made such wonderful progress in a short time as ours. A time for proper assimilation is needed, after which we will replace that statement of Dr. Darby's by one which will tell the world that we are making better dentists now than ever.

We are extremely fortunate in the character of **Dr. John J. Hart,** address just delivered by our President. He has **New York City.** abandoned the conventional and blazed a new field of his own. He has handled the subject of high ideals in a manner essentially practical and I for one feel deeply indebted to him.

No system is so perfect but that it is susceptible of improvement. The fact that this body of busy men congregate here for no other purpose than the advancement and elevation of dental education is an encouragement in itself, and the most pessimistic must admit that if faults exist they have only to be recognized and their causes defined to lead to their correction.

The main difficulty lies in agreeing as to these causes.

In the last few years we have departed so rapidly and radically from early methods of dental education that practically a student of today is trained in a manner along fundamentally different lines from those which formerly existed. That this is not entirely satisfactory those who agree with the address just read must admit. Formerly, prospective dentists were received as students in an office for a certain period of time prior to entering college. This method possessed two advantages; it enabled the experienced practitioner to observe manual weaknesses in the student and to tell him and those interested in him of the advisability of his choosing another calling. It also gave the student more and greater individuality than is possible today. In this way the weeding process commenced before the student was committed to dentistry as his permanent life work.

The number of students precludes the possibility of continuing on these lines and present methods of **Need of** education have supplanted the older ones, but it **Manual Training.** throws a responsibility on dental educators which they must not and cannot shirk. Your essayist says truly that the



ITEMS OF INTEREST

first fault is in accepting students of inferior preliminary requirements. This proposition must be regarded in its broadest sense; we are hide bound as to the prospective student's minimum literary education, but nothing is said as to his or her manual dexterity. So long as the standard of admission into the educational department of a profession which is mechanical as well as theoretical is purely literary, so long will we have a large proportion of disappointments and failures. I would rather teach a student of ordinary literary ability, but trained manually, than a Master of Arts with no manual training. With as much reason should a professor of chemistry be expected to teach a student arithmetic so that he should be able to work out a chemical equation, as that the departments of operative and prosthetic dentistry should be required to find out, after a student has been duly entered, whether he has the manual ability to perform his required work. No extension of the number or length of courses will stand in lieu of entrance requirements.

The records of our school will show that we have in several instances advised students against continuing to study dentistry, and in some instances absolutely refused to permit them to continue with us, but how much loss and chagrin could have been saved them, if, instead of finding this out after a waste of time and money they had been stopped at the threshold. I suggest that we require evidence of manual as well as mental training before accepting dental students.

If we can prepare individuals more thoroughly, we will have less ground for fear that they will go wrong ethically. A student who has spent three years acquiring a dental diploma and is then unsuccessful in practice building, has not the moral courage to enter another calling, but, unfortunately, is attracted by methods which he may abhor.

Ray Stannard Baker says truthfully: "The difficulty with constitutions and by-laws is that they regulate everything except human nature." Our difficulty in bringing up students to be ethical practitioners is twofold. In some instances the influences of their early environment must be overcome, in others, the mismanagement they see in the infirmary is more than an offset to their theoretical training. I believe in example even more than in precept, and feel if our infirmaries are conducted along ethical lines it will have a more lasting influence than preaching alone will effect. In our school we have found that we can more thoroughly train our students by subclass work. This is carried out in all branches of prosthetic and operative work, and no student is permitted to do any work on patients until he has satisfactorily performed similar operations in subclass. This gives opportunity for more thorough training and greater confidence than can be acquired by chair or table training alone. We have secured co-operation between lecturers and demonstrators by frequent

meetings between the two forces and a full discussion as to theories and methods. I am firmly convinced, if we examine our timber more carefully *before* admission, we will practically correct, if not entirely cure most of the evils enumerated.

Porcelain Technology.

By HART J. GOSLEE, D.D.S., Chicago, Ill.

(Read before the Institute of Dental Pedagogics, Buffalo, N. Y., Dec. 29, 1903.)

Although the primitive, practical and successful application of porcelain, or of the ceramic art, to dentistry, probably antedated the advent of dental colleges, and while it is true that the subject has occupied a place in the curriculum of a majority of the well equipped institutions since that time, still it is only within a comparatively few years that it has been regarded other than as being a distinctively separate, and, in most instances, perhaps unimportant part of the course of instruction, and hence it was generally taught accordingly, or, at best, in a more or less perfunctory manner.

This attitude, however, may be accounted for by the fact that a successful application of this particular class of work was then and has been generally regarded as demanding so high a degree of special fitness, and that it further encompassed a field of usefulness so restricted by limitations as to offer but meagre opportunities—pecuniary or otherwise—for the average practitioner of that time.

For these reasons, and since its application was thus for so long a time confined exclusively to the construction of continuous gum dentures, the restricted growth of the art and of the development of its possibilities naturally has led to the slow process of evolution experienced.

To the work of John Allen, Moffett and Ambler
The Old School. Tees, of Close, Haskell, Beauman and a few others, who represented and who still represent what might properly be termed the “old school” must be attributed the inspiration and stimulation which have encouraged the recognition and development of these possibilities.



ITEMS OF INTEREST

Indeed, such credit is due to them as to make it entirely unbecoming in me to pay tribute to their efforts and perseverance. And yet, if you will indulge me in prefacing this subject with a retrospective preamble, I desire to submit that we as teachers, in the present period of progress, must not overlook the conditions and difficulties under which their efforts were made, nor fail to acknowledge that the energy, perseverance and enthusiasm displayed by them has made it possible for those of another generation to comprehend and appreciate the value of their contribution to this evolution.

The esthetic and hygienic advantages which they early recognized, and which made the application even within such a limited field so pre-eminently successful, gradually promoted the realization of a greater scope of possibilities than they probably ever anticipated, and created a desire for the achievements which a more general and extensive application to fields of even greater usefulness would afford.

As this appreciation increased, others became encouraged and enthused, and thus the process of development was marked by the advent of what we may now term the "new school." The apparently radical statements of Land, Parmley Brown, Jenkins and others were accepted by some, and a few worked earnestly with these men in the further development of such possibilities as they predicted; but the great majority were either skeptical or indifferent, or else belonged to that class whose more or less ultra-conservative views and tendencies caused them to regard such claims as being those of the "faddist," and such efforts as being only those incident to the promulgation of a "fad."

The stimulus engendered by the efforts of these enthusiasts, however, and later on by those of one or two in the East and of a handful in the West—principally in Chicago—has resulted in the development of porcelain work to such a general application and to so high a degree of esthetic perfection as to firmly establish it as an *art* which is undoubtedly destined to occupy a permanent and conspicuous place in the practice of modern dentistry.

This advancement has been made possible to a large extent, it is true, by the increased and constantly improving facilities and products which are furnished by the manufacturers; and yet, as a matter of fact, and without any desire whatever to detract from the credit due them, these increased facilities which are now at our command and which have so materially aided in perfecting and expediting the procedure, have been furnished to us very largely as the outgrowth of suggestion and demand on the part of the profession.

Like all new departures and methods, the application of porcelain

work has been abused by indiscriminate and injudicious employment. This, however, is only a natural sequence, and is due to the fact that *judicious employment* can only follow a well defined familiarity with the requirements and limitations, and that these can only obtain as the direct results of the acquirement and development of skill.

Hence, if the modern application of this class **Duty of the Colleges.** of work to the filling of teeth and to the construction of crown and bridge-work is generally acknowledged as being practicable, which is now conceded, and if it is then in turn acknowledged that *successful employment* is dependent upon a definite knowledge of the fundamental principles and requirements and upon the acquirement and development of *skill*, then, the dental college of today must do its *duty*—toward itself, and the student body and toward the advancement of the higher esthetic attainments of the profession.

If this be logical, then the teaching of porcelain work in a broad and comprehensive manner, so as to include the various phases of its present successful application, has now become a necessary and important addition to the dental curriculum.

Just what a thorough course in the technology of the subject should embrace, just how much time should be devoted to it and how it may best be elucidated is doubtless a matter which will work out its own salvation, and which is largely dependent upon the views and experience of the individual teacher and upon the environments of the college.

All teachers will, of course, agree with me in the value of technical training, as well as in the necessity for didactic instruction in the elucidation of principles. It is my opinion, however, that such didactic instruction, whether it be given by the chair or by the demonstrator, should either precede the actual technic work of the course or be given simultaneously with it.

While I know that the question as to whether the instructor of technics in the exercise of his special province as a teacher should deliver lectures upon the principles underlying any class of practical work is regarded as being unsettled, still it is my opinion, based upon experience, that the student should not be allowed to work in the dark, but that he should have an idea of why he is required to observe certain specified details before he is expected to attempt their execution. Unless he has this advantage he works practically as an automaton, and hence will invariably fail to appreciate the importance of exactness in the execution of minutiae and detail.

In accordance with such a view, the course in porcelain technology, which I herewith briefly outline, is one which is now being given in the college with which I have the honor to be connected. It will be noted



ITEMS OF INTEREST

that an effort has been made to arrange it in a more or less systematic and sequential order, and to have it encompass a range sufficiently broad and practical as to enable the student to become adequately familiar with the details of procedure *out of the mouth* to an extent which will at least insure their subsequent more or less successful application in the mouth.

In connection with the didactic instruction, and irrespective of whether this instruction should come from the chair or from the demonstrator, the course should be inaugurated by lectures upon the fundamentals of the subject arranged and classified as follows:

**Didactic
Instruction.**

First—The history and development of the porcelain art.

Second—The composition, characteristics and manipulation of porcelain compounds.

Third—The sources of heat production employed.

First—The first consideration embraces the history and development of this work which may be made materially beneficial to the student as a means of placing his mind in a receptive condition for further enlightenment, as well as to increase his appreciation of the requirements and underlying principles.

Second—The consideration, under the heading of the composition, characteristics and manipulation of porcelain compounds, would embrace:

1. *Composition.*

The ingredients used.
Properties imparted by each.
Method of compounding, etc.
Tinting, coloring, etc.

2. *Characteristics.*

Texture.
Density.
Strength.
Fusibility.
Shrinkage.

3. *Manipulation.*

Mixing: Trituration, consistency, etc.
Building: Packing, evaporation of moisture, etc.
Carving: Occlusion, anatomical outlines, etc.
Fusing: Tests, shrinkage, vitrification, color, porosity, etc.

Third—This portion of the instruction, which we have designated as "sources of heat production," should include a consideration of the various kinds of furnaces now employed; the manner in which they should

be used and how they may be repaired; and the precautions incident to placing the work in and removing it from the muffle—heating, cooling, etc.

This preliminary didactic course should then be followed by a course in the technic laboratory, which should be sufficiently broad, comprehensive and practical to embrace the application of the fundamental principles as they are thus presented, and which will lead the student up to an appreciation of the various details of procedure involved in, as well as of the precautions incident to, such application.

The technic instruction in this work necessarily involves a close interweaving of the departments of operative and prosthetic dentistry, and yet the best interests of the course and of the student will doubtless be conserved by having the teaching all done by one man, or at least under the direct supervision of one particular teacher.

For the purpose of expediting and facilitating the systematic presentation of the work, however, the course should be arranged in three separate divisions: Inlay work, crown and bridge-work and plate-work.

The presentation of inlay work is purposely made the first part of the course because the greater degree of simplicity which it may be made to involve affords a correspondingly increased opportunity for becoming thoroughly familiar with the fundamental details before attempting the more intricate requirements incident to the construction of more extensive work, and it in turn should then be subdivided into three sections.

Section I. The first section of this part of the course must of necessity be largely didactic and should embrace:

First—The indications and contraindications for the employment of porcelain in the filling of teeth.

Second—The principles and requirements of cavity preparation.

Third—The characteristics and comparative advantages of the metals used for matrices and the adaptation of the matrix.

Section II. Section two should embrace an adequate number of practical requirements, arranged in a more or less sequential order, to enable the student to become thoroughly familiar with the details of procedure incident to an intelligent and successful application.

For such preliminary work the technic outfit designed and supplied by Mr. Robert Brewster will be found so eminently practical and useful as to warrant its recommendation and endorsement. It includes all of the necessary appurtenances and may be most advantageously employed in the following manner:

First—The moulding of a large tooth in porcelain.

Second—The cutting of an approximal and labial cavity in same.



ITEMS OF INTEREST

Third—The baking of this tooth.

Fourth—The investment of the tooth with plaster in steel cup, with labial cavity exposed.

Fifth—The adaptation of matrix by swaging directly into the cavity.

Sixth—The filling of the matrix with body and completing the inlay by consecutive bakings.

Seventh—The reinvestment of tooth in perpendicular position in cup, so as to expose approximal cavity and facilitate handling.

Eighth—Adaptation of the matrix by *burnishing*.

Ninth—The filling of the matrix by consecutive bakings.

It will be observed that these various steps are purely fundamental, and yet that they impart a knowledge of, and afford a training in, the preliminary details. While all of the work is done directly on the large porcelain tooth, an idea of the mixing and moulding of the "body," of the formation of cavities, of the fusing and shrinkage of the porcelain, of the necessity for building the filling in layers and by consecutive bakings, and of the adaptation of the matrix *by both methods*, is clearly imparted.

Section III. The third section of this part of the course is intended to be of a more advanced nature and is designed to be done under conditions more closely simulating the natural ones. For this purpose the cavities should be cut in teeth of white vulcanite, bone or some other favorable composition, as a means of imparting a training in the formation of cavities in a material which may be cut and trimmed as required, and with some facility.

Because of the advantage of adjacent teeth to indicate the necessity for separation and to guide in obtaining contour, etc., the Bryant technic models, which should have been made as a part of the preceding work in operative technics, are recommended as probably furnishing the best means available for stimulating these conditions and for admitting an observation of these requirements.

The following consecutive steps should comprise the work in this section:

1. Obtaining adequate separation.
2. Preparation of cavity, involving incisal angle, in anterior tooth.
3. Adaptation of matrix by burnishing.
4. Building, shading and baking inlay.
5. Preparation of cavity, involving approximal and occlusal surface in bicuspid or molar.
6. Taking impression of same in cement or other material.
7. Obtaining die from impression in cement or amalgam.
8. Adaptation of matrix by swaging.
9. Selection of shade or shades and building and baking of inlay.

10. Requirements of mounting and final preparation and mounting of inlays.

It will be noted that these steps are considerably more advanced than those of the preceding section, and also that they may be even further embellished so as to include a larger variety of cavities; the adaptation of either platinum or gold matrices; the use of either high or low fusing bodies, or even to also include the construction of gold inlays, at the option of the teacher and as the time allotted may permit.

Upon the completion of the above requirements, **Crown and Bridgework.** the work should then become still further advanced, so as to include crown and bridge-work next in order.

This part of the work should also be preceded by didactic instruction, embracing a thorough elucidation of the indications and contraindications in the more extensive application of porcelain to these purposes.

Unfortunately, platinum is the only metal that can be used in conjunction with porcelain when fused, even in technic work; hence this portion cannot well be made to include too many pieces because of the expense involved. Nevertheless, if the course is to materially benefit the student, a sufficient number of pieces to include an application of the more important principles and variations of construction must be required.

Because of the expense involved in the use of platinum, it may sometimes be thought expedient for this purpose to use a very thin gauge. This I regard as a great mistake, for two reasons: *First*, a very thin gauge may be manipulated with so great a degree of facility as not to afford to the student a knowledge of the working properties of the proper gauge for practical purposes; and, *second*, so much depends upon the metal construction of this work that an application of such economical training to practical cases might have a bad influence upon students of such tendencies, for it is well-known that a large proportion even of practitioners often use a much thinner gauge metal for the construction of all kinds of crown work than conserves to the highest degree of strength and permanency in the finished piece. For these reasons the same thickness of metal which would be indicated for practical purposes should invariably be employed.

It is to be regretted that porcelain will not attach, in fusing, to nickel, or some alloy of it, or that the same cannot be so treated by electro-plating or some other means, so as to admit of its use for these purposes, but until such time as this may be possible and the free oxidation of this metal or its alloys under extreme heat may be overcome, the use of platinum is necessary.

The general principles of construction, however, may be taught by requiring a minimum number of pieces, and such would include the construction of:



ITEMS OF INTEREST

1. An anterior crown without band, or with partial band.
2. A bicuspid crown with band.
3. A bridge including two abutments and one or more dummies.

This much at least should be finally completed, and should be a positive requirement, as a means of familiarizing the student with those intricate details which differ from gold work and yet which are so essential to the successful application of porcelain work.

Such details as might be thus emphasized, even in this amount of work, would include the following essentials:

1. The requirements of root preparation.
2. The necessity for contact between surfaces to be soldered with pure gold.
3. The requirements in the relation which should exist between facing, or porcelain, and cap.
4. The necessity for securing mechanical retention between porcelain and platinum.
5. The requirements of strength in the metal construction and in the assemblage of several parts.
6. The use of platinum solder and the oxyhydrogen blow-pipe.
7. The necessity of protecting and supporting the porcelain against stress.
8. The building, packing, shading and carving of the body.
9. The influence of and necessary allowance for shrinkage.
10. Precautions incident to the heating, fusing and cooling of the work.

Any desirable variations of metal construction in addition to these may then be required and constructed in German silver, and such pieces as it might for this reason be desirable to incorporate in the course may be used to emphasize all details, excepting that of fusing the porcelain.

Notwithstanding the lamentable fact that continuous gum dentures are not now often constructed, a course in porcelain technology would not be complete without instruction in this special line.

Platework. Because of the expense to the student, however, it would perhaps often work a hardship on him to make the construction of such plates a compulsory requirement. Yet the advantages to be derived from instruction in this phase of the application of porcelain may be obtained by requiring a technic case made on a base of German silver, with continuous gum teeth attached. This will impart all of the detail, except that of baking the body, which may then be covered didactically, and those who can afford and who may prefer to use platinum may do so at their option.

The course thus briefly outlined is presented as representing that

which in my opinion should constitute the *minimum* requirements in porcelain technology; and I recommend that it be regarded as advanced work and hence should not be given until the technic courses in operative and prosthetic dentistry and orthodontia have been completed.

In conclusion, I would say that I regard this subject as a necessary and important addition to or part of the curriculum of all colleges whose faculties appreciate the possibilities of porcelain work, and the importance of thoroughly teaching it, and who recognize its permanency as an art in the practice of modern dentistry.

Some Causes for the Discoloration of Gold Fillings.

By PAUL B. ENGEL, D.D.S.

Read before the Second District Dental Society, October 12, 1903.

The overwhelming popularity with which the advent of improved methods in porcelain inlay work has lately been received by the profession for a time tended almost to relegate the filling of teeth with gold to the past. The life-like appearance and deception that the new material presented naturally at once caused the two to be compared as to their esthetic qualities. The enthusiasm with which some men have taken up this inlay work has brought the use of gold in the anterior portion of the mouth very much into disfavor with them. They refer to gold fillings as a barbaric display, an objectionable glitter of brass, and allow their enthusiasm to forget the practical advantages of a gold filling. A perfect inlay is a thing of beauty and a joy; a perfect gold filling a thing of beauty and a joy, practically, forever.

In the preparation of a cavity for gold filling,
Contour. attention should be given to sufficient extension of the margins so that the light can be reflected from the surface of the filling and strike the eye of an observer standing directly in front of the person. A sharp, perfect line of graceful curve should show the demarcation between tooth structure and gold. The question of contouring was the cause of a long and hotly contested debate over twenty years ago between the late Dr. Marshall Webb and Dr. Chupein. Chupein



ITEMS OF INTEREST

contended that a filling should not be fully contoured nor the margin of the cavity extended much in order to avoid the display of gold. Webb most vigorously denounced such views, held that the contour should be fully restored, and advocated the extension of margins to bring the gold fully into view. Webb's views, to this day, are shown to have been correct. So with perfectly prepared and extended margins the gold is inserted and sufficiently condensed.

Finish.

The proper finish is another point which demands especial attention. Occasionally, after hours of painstaking work, it seems impossible to obtain a good finish, and, in the event of a failure to obtain this, we consider our filling imperfect. Perfect margins but deficient gloss make such a filling appear lacking of an essential quality. A smooth, glossy and rich finish is what a perfect gold filling should possess. There was a time when it was recommended to modify this high polish by the use of soft wheels and pumice, to give the filling a dull finish. The fallacy of this idea was, however, quickly seen, and the practice was soon forced out of vogue. The patients returned and wished to have their gold fillings repolished, complaining that they looked discolored and more like brass. Such a dull surface was found to discolor more readily than the glossy finish.

Discoloration.

Discoloration of gold fillings, even in the early days of the use of the material, attracted the attention of the profession, and various reasons were offered for this which today are still recognized causes. Among these may be mentioned improper cavity preparation, including insufficient removal of decay and insufficient marginal extension. In the former defect, the gold next the floor and cavity walls, being necessarily not well condensed, becomes very absorbent to the products of the progressing caries under it. This process extends to the margins of the filling and a discolored edge results, due to the penetration into the substance of the filling of the products of decayed dentine. In the latter defect, the failure to extend the margins, not only does not hide the filling completely and prevents the light from being reflected directly forward from it (I am referring particularly to approximal fillings in the anterior teeth) but also by its very position prevents access to all cleansing agents—the saliva, the lips and the toothbrush—and such a filling has not the appearance of that perfect gold filling which I have described. Another frequent cause is insufficient surface density. I spoke of painstaking care in making a gold filling. The operator's attention may have been diverted while condensing the last layers of gold, and he fails to obtain the proper finish. He burnishes, polishes, does not dare to make new imprints with the mallet into the already flush surface, and the filling lacks that smooth, glossy

polish of the perfect gold filling. Such a surface, as well as the dull pumice stone finish, is very inviting to discoloration. Still another cause is the incorporation into the gold of foreign substances during the insertion of the material. This may happen in connection with combination fillings. Scraps of tin, amalgam or metallic flakes from the instrument used will in time mar the surface of a filling. Here it may also be mentioned that excessive burnishing with steel instruments tends to discolor gold fillings. Combining tin with gold to fill at the cervical margin or the major part of the cavity, or combining amalgam with gold, in all such combinations, if extreme care is not taken in finishing, the baser metal will be rubbed on or impregnated into the surface of the nobler metal. Even the very fact that a large mass of amalgam is in contact with a small mass of gold may, in the course of time, produce a slight discoloration in the gold. Furthermore, there may be a possibility that the fineness of the gold used is at fault, though this can hardly be the case at the present day. The action of sulphides, either taken in with the food or produced chemically in the mouth, is another reason for discoloration, and these agents are invariably present to a greater or lesser extent in all mouths. The mouths of febrile patients, as well as those of the healthy, are often found to be in an exceptionally dry state. Such a state is very favorable to the action of chemical agents and organic forms of life, and a deposition takes place which is a common cause for discoloration.

**Discoloration
of Gold Due to
Tooth-powders.**

This about completes the list of causes usually mentioned. Now eliminating all these causes, all defects and errors in working, there is still one thing which may discolor a perfect gold filling, and this brings us to the real object of my paper. I refer to the action of certain tooth-powders on gold. This I have never heard spoken of, nor seen in any text-book or journal. Many of us may have noticed on the return of a patient whose teeth had perfect gold fillings in them the presence of a dirty, greyish appearance like a deposit, giving the fillings and even gold crowns of a high karat the appearance of dull brass. This may present within a day or two after the operation. It has been found that after a single use of certain tooth-powders the gold is discolored. After continued use, the discoloration becomes more marked.

All tooth-powders consist of a body and a flavoring agent, with sometimes an antiseptic. The body is the real cleansing agent, precipitated chalk being usually used. On a piece of rolled gold, made of scrap filling gold, highly polished, a brush with precipitated chalk was applied; even pumice was added. Beyond a slight scratching produced, no discoloration took place. Almost all tooth-powders for sale to-day are strongly



ITEMS OF INTEREST

flavored, and the agent most commonly used is the oil of wintergreen. This oil, as well as the oil of peppermint, was also applied to the rolled gold, mixing each with chalk. No discoloration nor even scratching was noticeable. So we can preclude the possibility that these agents directly produce the discoloration. Oil of wintergreen, the oil of gaultheria, readily yields pure salicyclic acid, which is a powerful antiseptic. Gorgas says that it has been recommended as a dentifrice in the form of an alcoholic solution of the acid perfumed with the oil of gaultheria, but questions its use on account of its softening effect upon the tooth-structure. Salicyclic acid mixed with chalk produced no visible effect on the strip of rolled gold; even a saturated solution of salicyclic acid on boiling produced no effect on the gold. Yet with all these negative results, the moment certain tooth-powders, strongly flavored with wintergreen, and only these powders were applied to the gold, a remarkable discoloration took place. What the real cause of this is I have not as yet been able to discover. It may be that during the process of manufacture of the powders, metallic impurities enter them and these cause the discoloration; but as to this I can at present only conjecture.

The question now arises what to recommend as a powder to all such people. Direct them to cease using such powders and prescribe or advise the use of a powder flavored with the oil of peppermint or some other pleasant agent and preferably containing also the bi-carbonate of soda. A new brush is also necessary. After polishing the fillings again and by following this rule, I have noticed on the return of these patients that the dull, dirty, brass-like deposit has not reappeared.

Dentistry in Foreign Countries.

By DR. OSCAR G. GERBER, East Orange, N. J.

Read before the Central Dental Association of Northern New Jersey.

It may interest you to hear of the different ways in which dentistry is practiced abroad, and I am proud to say that no other country can compete with us. I need not tell you anything about our schools and colleges. You know about them and therefore will not be surprised to hear that the American dentist is much sought after. In Europe, more particularly in England, France and Germany, they are not far behind us, as they are endeavoring to work according to our methods. This is not strange, for the American colleges graduate quite a number of students who are na-

tives of foreign countries and these go back to practice at home what they have learned here. One evidence of the demand for American dentists is seen in the signs and advertisements. For example, we may read, "We are prepared to do your dentistry as we have a complete corps of American dentists."

In Germany dental practitioners are divided into **Dentistry in Germany.** various classes, first, the Zahnarzt, then the Zahnkünstler and the American dentist. The Government endeavors to fix the fees to be charged by these different classes of men, but this, I believe, can be seldom strictly enforced; yet in case a suit is brought into court, the Government schedule of prices for dentistry would play an important part in the settlement. The foreign medical man may be considered as prejudiced against the dentist, whom he does not look upon as a professional brother, but rather as allied to the old style "barber dentist;" nevertheless when he comes into contact with a foreign dentist, he is very careful in his conversation. I have been in some of the smaller towns in Germany where the medical man extracts teeth and in some cases he may do a little in the line of excavating cavities and filling with cement, this being all the dental work that he thinks necessary for the town.

The Zahnarzt, or tooth doctor, is of the first class. He is one who has passed a medical examination of a German university, then taking up the practice of dentistry, which is based mostly on theory. The Zahnkünstler, or tooth artist, is the mechanical dentist. Whilst he does not pass a very rigid examination, he has the same right to operate at the chair and do the mechanical work as any other, the difference being that the name does not carry the same confidence as Zahnarzt. In Germany this branch employs a great many women. The American dentist, as he classes himself, is not an American born; he is one who comes to America to study, returns and classes himself an American dentist. This sort of American dentist is somewhat of a detriment to the real American who goes abroad, because when he begins practice he finds it rather difficult at the start.

My experience with the German student leads me to believe that his chief desire is to get a sheepskin and not so much real knowledge. He says to himself, "all I want is to go back, hang out my sign as an American dentist; that is all that is necessary, for haven't I an American diploma?" When patients arrive, he goes at it with a know it all air and proceeds as he would tell you himself to "scratch around the cavity and putty it up and then it is finished." Such is the work these people do, and in many places it lowers the standard of American dentistry. I do not of course mean that all American dentists are of this kind, for we also



ITEMS OF INTEREST

have great men and enough real Americans to hold up the reputation of genuine American dentistry. I met a dentist this summer who had read a great deal about American dentistry and he was inspired by what he had heard and read. He made up his mind that the best vacation he could take would be to sail to America and see for himself. He told me that what he saw proved to him that we are a most practical people in every way, not alone in dentistry. His visits to colleges gave him the idea that our facilities for learning gives us the right to consider ourselves the best.

I will endeavor to give you an insight into Russian dentistry. The main difficulty is to explain to the people what is best for them. My experience of two years in that empire brought me into contact with all kinds of people which enabled me to learn many interesting facts. There are two schools in St. Petersburg governed partially by the government. The equipment of the schools varies greatly from ours. They have not the improvements we see here, everything being crudely constructed. For instance, the dental chair reminds one strongly of the death chair used in the New York prisons for electrocution. The school is divided into two schools. One the paying department and the other the school, the paying department being little less than an advertising scheme. The school is conducted by a woman who manages both departments and is the dean. Under the law she must engage several medical men who do the teaching; these and the dean compose the faculty. Material for the students is missing and they must content themselves with what there is shown on a few patients. Everything is charged for in the department, otherwise the paying department would suffer as a great many would go to the free department, if there were one. Demonstrators and teachers are limited. One does the operating, and one is in charge of the medical branch. The teaching staff includes two or three medical men who lecture on anatomy, physiology, etc. These same men teach mechanical and operative dentistry by reading a few chapters out of text books. They cannot explain the uses of the instruments any more than they could show how to flask a case. They refer to the text book or demonstrator, if the latter has time. There are from seventy-five to one hundred students, seventy-five per cent of whom are women, most of them being Polish. The course covers three years and the terms are shorter than ours. After the student passes his school examination, he must go before the medical board for examination by them. Here he must extract and fill a tooth; for his knowledge of the other practical work they take the word of the professors in the school. The medical board reserves the right to convene at their leisure and it is asserted that sometimes bribery helps to pass an examination. There are two classes—a dentist and a Subnoi Wratch, which is similar

to our D.D.S. degree. The dentist is more common and is not required to pass the same examination as the Subnoï Wratch. I will relate an amusing incident. One of these Russians asked an American dentist how many forceps American dentists use, and was told about eight was the usual number. The Russian told him that he was wrong—that thirty-two are required. One for each tooth. There are a number of questions of similar character and we can see that it is not very difficult for the foreign student to graduate. It would be comparatively easy were it not that he must take the examination in the Russian language. After the student passes his examination, he is admitted into the paying department where he works on a percentage or he can go elsewhere. The Russian student, no matter what department he is in, whether medical, dental, science, engineering or any other, is always under the strict observation of the police. The students and the working classes affiliate and cause many riots. It is known that the police rummage the desks of the universities and schools to look for Nihilistic literature which is spread among the students. The police visit usually during the night, and if they find anything they act on it the next day and serious consequences occur immediately. I knew of a case where a young woman in a dental college had borrowed a book from a medical fellow student, and between its leaves there was a pamphlet of some kind pertaining to the oppressive treatment of students. Although she was entirely innocent and ignorant of the fact until the police came for her, the next day she was sent out of St. Petersburg with instructions never to return. If she should come back, she would be taken captive and sent to Siberia. Should a foreigner find himself in such a position, he would be escorted across the border with the same instructions. Knowing the inferior modes of instruction, in the dental schools, and knowing that the Russians do not like foreigners to teach them, I have asked why they do not send some of their own people to America to study American systems of dentistry and to return as dentists. The reply was that the Government would be at an expense to do this with no financial return as they would never see the students again.

I have had as my patients a great many of the nobility of St. Petersburg. Their habits are different from ours and they are quite difficult to deal with. Social functions occupy most of their time and these usually begin at 10 p. m. and last until 3 and 4 a. m. They sleep very nearly all day, and it is a great exertion on their part to visit a dentist. The Russian woman does not want to be seen going to a dentist, nor does she wish her intimate friends to know of it, and in order to avoid coming in contact with them, they send their servants to ascertain the precise moment



ITEMS OF INTEREST

you will receive them, and you must be ready at that moment. The filling of teeth is usually of one type, cement or amalgam; gold fillings are rare. The patient as a rule will not permit any show of gold. I have often been asked why Americans show so much gold and why they have gold fillings. I have explained; some of them were convinced but the majority were not. In most cases they say, "I want a cement filling, no matter how long it lasts." Even if it were only three or four weeks they would prefer to come back and sit again rather than to have any gold show. Still, in time they may be induced to have gold work done, but I may state here that there are not more than three or four dentists in St. Petersburg capable of putting in a gold filling. The fees are large in most cases and complaint is seldom made. Sometimes a patient will come in for a treatment to stop a toothache or something of that kind and will pay five roubles or two and one-half dollars for the visit without contention. For cement fillings or amalgam and extractions, five roubles; for extraction with cocaine, ten roubles; for gas, twenty-five roubles. This includes the fee for the medical attendants, for in each case one or two medical men are in attendance to anæsthetize the patient, while the dentist does the extracting. Gold fillings would be from five to twenty-five roubles, the average bring about ten roubles each, but it pays better to put in cement fillings at five roubles than gold at ten. In most cases that I have seen, the cleansing of cavities were not so much considered, the main point being not to hurt the patient. Plates are placed in the mouth over the roots which are allowed to remain. They will not have these roots extracted and are often so advised by the dentist, for he is afraid that if he hurts them they may never come back. The prices for plates range from one hundred to three hundred roubles for a set of teeth.

Some Problems in Bridge Work.

By DR. ELLISON HILLYER, Brooklyn, N. Y.

Read before the Central Dental Association of Northern New Jersey, Nov. 16, 1903.

Viewed from the patients' standpoint, bridge work recommends itself by virtue of its remaining fixed upon its abutments. The sentiment of some patients against the insertion and removal of plate dentures is so strong as to lead to a too free use of bridge dentures on the part of their attendant dentists. The best results are not always produced in the endeavor to harmonize the desires of a patient with what an operator knows to be the proper method of restoration.

Every practitioner is the arbiter of what he should or should not do

when considering an operation, but he is necessarily *influenced* by circumstances.

The use of gold crowns in the anterior part of the arch is being decried more and more by the practitioner and patient alike. My attention was called to the fact, not long ago, by Dr. Ottolengui that the requirements for admission to an operatic chorus included the omission of any appearance of gold, even in fillings, in the anterior teeth—an indication of the awakening of the general public to the unsightliness of an exhibition of gold crowns and the beauty of teeth free from the appearance of gold in large fillings.

When the condition of an arch presents where it becomes necessary to bridge a space anterior to the second bicuspid teeth, the problem arises regarding the advisability of using gold crowns for abutments. We all agree that so far as strength is concerned there is no better anchorage than a well fitting gold crown upon a properly prepared and shaped root. Is it, however, necessary to use it anterior to the bicuspid teeth? A good rule in the use of gold crowns is to never use one where it would show upon the normal opening of the mouth. The angle of the mouth at rest is at the first bicuspid tooth; the ordinary parting of the lips may disclose the second bicuspid and hence we say use gold crowns upon the molar teeth only—a good rule which will have exceptions in regard to bicuspid teeth in many cases.

In anterior bridges, shall we sacrifice strength to appearance or appearance to strength? Let us do neither, for neither is necessary. Take, for example, the loss of a superior central incisor tooth. Is it necessary to make an unsightly appearance for the purpose of strength by using gold central incisor and lateral crowns, or, on the reverse side, make a questionably good appearance by banding the same abutments in the manner indicated by this specimen, which was handed me by Dr. Boylhardt the other day and which was exhibited at the Second District Society last Monday evening. Such an appliance is, of course, a travesty upon reasonable bridge work, but the object sought was restoration with as little change in appearance as possible (i. e., in the mind of the man who made that piece).

Anchorage for such a bridge may be obtained in many similar ways upon the lingual surfaces of the remaining central incisor and adjoining lateral, which will give no appearance to an observer and yield the patient a restoration natural and yet strong and easily kept clean and polished.

While speaking of this typical case I wish to register a protest against the use, so prevalent with some practitioners, of small bridges made upon the cantilever principle with but one abutment and *no*

**Cantilever Bridge
Condemned.**



ITEMS OF INTEREST

support upon the opposite end. No one tooth unless it be a very strong bicuspid or molar, can do the work and bear the stress of two teeth, especially the lateral stress almost invariably resulting.

The life of bridge work is short enough when done in the best possible manner, but when more is required of it than can naturally be expected it seems to me we should consider well how we proceed.

The addition of a firm rest or "lug" to touch upon the tooth adjoining the dummy will help matters in such a case. The tooth thus used as an abutment should be in a position to be constantly watched and cleaned by the patient.

Open Faced Crowns Condemned.

Another case presents all the superior incisor teeth missing with good solid cuspid teeth ready for use as anchorages. Here is the opportunity for using the open-faced crown—that pit-fall of our practice. There is no greater invitation for trouble for both patient and operator than this crown. Until we find a cement which will not wash out we must discard what would be an admirable anchorage, but for this difficulty. We have been criticised for even teaching its construction to students; but they must know how to make one should they subsequently become associated with some practitioner, who is in the habit of inserting them for his patients, and in order that they may know what to avoid if given free choice to do what is best. You will ask, what would you do in such a case? Better do one of two things at once—you will probably have to do so later; devitalize the pulps in the cuspid teeth and either cut off the crowns for abutments or, leaving the cuspid teeth intact—except for the root preparation—utilize the prepared roots for good, strong posts and fill around their point of insertion with gold.

The use of cavities for lodgement of abutments is profitable in small anterior bridges where secure anchorage may be obtained with immunity from too great stress of mastication. The inlay abutment advocated by Dr. Eisen, in this month's *Cosmos*, seems very reasonable, although I have not used the method just as he describes it.

Bridge work must be *strong* or it misses its prime function; but it most certainly is not necessary to sacrifice appearance to obtain this strength.

Bridge work must be *natural in appearance*; but sacrifice strength to make it beautiful and it again fails to attain its aim.

If we cannot make these conditions harmonize with a case under consideration, we should better advise some other means of restoration at once.

We should best avoid any tendency toward the practice of some who

seem ready to guarantee bridge work "for a lifetime" unless we are perfectly certain of the time the patient has to live.

The Use of Homeopathic Remedies,* as an Adjunct, in the Treatment of Pathological Conditions of the Mouth.

Notes taken from the suggestions of Rufus L. Robinson, M.D., D.D.S., New York, and E. B. Guile, M.D., Utica.

By HENRY H. TOMPKINS, Utica, N. Y.

Read before the Sixth District Dental Society, at Syracuse, N. Y.

To a class of men using so many remedies in their concentrated form, it is somewhat difficult for them to appreciate the effectiveness of remedies as prescribed by the Homeopathic School of Medicine.

There is not time to enter into an extended discussion of the principles of homeopathy, it being granted that there are men of note and accepted ability, practicing in every city, who attain definite and positive results, and for whom no apology need be made.

Homeopathy seems particularly adapted to obscure, chronic cases, which do not yield readily to the remedies, as ordinarily used by the regular school. Perhaps one of the strongest features of the treatment, is the individualization of each case. Its practice seems to prescribe more for the particular individual than for a particular disease. They maintain that it is the careful selection of the drug, rather than the quantity taken, which produces the results. When a remedy is prescribed, for instance in the thirtieth dilution, it at first seems to us that one might just as well prescribe nothing, or pure cold water. But practice has demonstrated that this is not true; and when we stop to think of it for a minute, how much substance is there in homesickness, lovesickness, malaria, etc.? Yet such trifles make well men intensely sick, while the microscope, or a chemical analysis will not show the slightest trace of any substance.

A bottle of musk may be uncorked in a church or auditorium, filled with people, and it would not be an uncommon thing for some one in the audience to become very ill immediately; and yet it would be difficult for anyone to measure the quantity of substance which left the bottle.

Regularity of administering drug is the great point. Water dropping on hardest rock will gradually wear it away.

*The remedies may be obtained from Boerick & Tafel, 15 West 42d St., New York.



ITEMS OF INTEREST

Homeopathic remedies are dispensed by two scales: namely, the decimal and the centesimal. The decimal scale is usually employed for the lower potencies, and the centesimal scale for the higher potencies. The decimal scale is indicated by the letter *x* being placed after the number of the dilution.

- 1x equals 1-10.
- 2x equals 100.
- 3x equals 1,000.
- 4x equals 10,000.
- 5x equals 100,000.

The centesimal scale is indicated from the remedies merely marked 1, 2 and 3, or 30, as the case may be.

- 1. equals 1-100.
- 2. equals 10,000.
- 3. equals 1,000,000.

Keep remedies away from light and heat.

The following is a kind of pocket edition of homeopathic therapeutics for dental use:

Aconite.—Third Potency, or 6x. Aconite is indicated for inflammation, hard, rapid pulse and thirst. After filling a tooth very close to the pulp which gives pain; also for pulpitis, which does not yield readily to local remedies; or fever accompanied by anxiety, dry skin and restlessness.

Aconite and other remedies in fluid form are conveniently dispensed by filling a small bottle with discs (sugar and white of egg), and wet until thoroughly saturated with the drug. Two discs make a dose.

- Sig. 2 each hour until better;
 2 every two hours;
 2 every three hours, if necessary.

In aggravated cases, give every twenty minutes to start with; also belladonna, which we will consider later.

Dissolve around the tooth and direct patient to swallow the saliva; this will help patient to understand the application of the medicine. (Can use for two weeks, if necessary.)

Coffea.—Sixth (c) Potency. Coffea is for severe, agonizing tooth ache, sleeplessness and nervousness and all toothache relieved by cold water. Nervousness arising from sudden good news, or excitability after a party, and inability to sleep.

Sig. Same Aconite.

Belladonna. Belladonna.—Third potency or 6x. Dose same as Aconite. Acute, hard, hot, red, painful swelling; characteristic of the early stage of alveolar abscess;

tooth painful; hurts to bite on it; feels as though it were ulcerated at the end of the root; dry mouth; viscid saliva; throbbing worse about or before midnight, and with all the evidences of intense cerebral congestion.

Belladonna and aconite are cognate remedies: that is to say, they bear a close relationship and often can be prescribed alternately with very great effectiveness.

When belladonna fails (12 to 24 hours), or when case comes to you after the bell. period has passed, or pus begins to form, use **hepar sulph.**

Hepar Sulph.—3x. (Sulphuret of Lime). When pus begins to form, it is usually accompanied by a slight chilliness, and the throbbing is synchronous with the pulse. Also for large swellings and fluctuations where pus is present. The action of the drug is to either abort the formation of pus or to restrict it to its narrowest limits and bring quickly to a head.

Hepar sulph. comes either in tablet or powdered form. If in two-grain tablets, two tablets make a dose. If in powdered form, four grains, or about what will lie on a ten-cent piece.

Mercurious Proto Iodide. (Compound of salt, mercury and iodine.)—3x. (Dose, four grains or two tablets three or four times a day, or once in three hours for two weeks.)

If hepar does not cure, use mercurious proto iodide, following *acute* abscesses, but not for chronic abscesses (or when taken several days to form.) Also for pyorrhea alveolaris and loosening of the teeth, and all that class of troubles. Especially indicated for spongy, turgid, purple or grayish-purple gums and pus pockets, where the gums are loose and detached from the teeth.

Mercury likes heat, and is good for acute inflammation where a hot water bag does good, and especially in cases with syphilitic taint.

Of course it is understood that mercury is contra indicated in case of salivation, and hepar sulph. is an antidote to mercurious poison.

When there is swelling and you do not know whether acute or chronic, give six doses of bell. and six of mercurious, alternately once an hour. This makes a very excellent combination.

Instead of hepar sulph. or mercury, some physicians prefer to prescribe pulsatilla, 3x, or bryonia, 3x. These are cognate remedies and can be used alternately. Pulsatilla is intended for light, blond-complexioned people, and for women who have a tendency to cry. Dose same as aconite.

Bryonia covers pathological conditions secondarily to pulsatilla, but more acceptable for dark-complexioned, nervo-billious patients, and cases which are markedly aggravated from motion and pressure, and are better when lying on the effected side. Sig. Aconite.

Now we come to cases of long standing chronic conditions, and for which silicea 30x heads the list. (This is pure quart silic.) Dose, four grains three times a day.

This is for *chronic* alveolar abscess and fistula and antrum troubles and necrosis, and sometimes to abort abscess.

When bell. fails, try silicea, and also when you suspect necrosis.



ITEMS OF INTEREST

This is a deeper acting remedy than any we have thus far discussed, and has probably done more to popularize homeopathy in dentistry than any other remedy. It must always be used in reasonably high potencies, because it is an inert substance excepting when potentized. This is particularly useful in all pus conditions of long standing, indicated by the thin, watery discharge, which is usually more or less flocculent; and also for the offensive pus, which is almost always a characteristic when bone is affected.

Anyone who has prescribed silica for this condition will come to have a great deal of respect for the remedy.

Sulphur.

When silica fails, try sulphur. It is indicated in all inactive conditions of the system and is usually accompanied by an unhealthy condition of the skin. It is a great thing to clear up the system and for aiding other remedies to act. In chronic cases where the indicated remedy does not seem to act, give one or two intercurrent doses of sulphur. One drop in a teaspoonful of water makes a dose. Give one dose twice, night and morning, and then go back to silica or other indicated remedy.

Calcarea Carb. (of lime). Thirtieth trituration. From burning oyster shells.

This is particularly good in that class of cases in which you open a dead tooth and nothing comes out and the pain is not lessened. It is especially adapted to that class of people who perspire readily on slight exertion, fair hair, blue eyes and luco phlegmatic temperament. Dose, same as silica.

When working around dirty teeth and pus pockets, and you are unfortunate enough to puncture a finger, suck the wound and squeeze out the blood. Apply carbolic acid, full strength, and take arsenic, third dilution. Place five or six drops in one-fourth glass of water; take one teaspoonful every fifteen minutes.

Arsenic antidotes all septic conditions of the blood.

If arsenic fails, use lachesis (snake poison), thirtieth dilution. Five or six drops in a half glass of water; teaspoonful every hour.

The Souvenir Medal of the Fourth International Dental Congress.

We present herewith an illustration of the medal authorized by the Committee of Organization as a souvenir commemorative of the Fourth International Dental Congress, to be held next year in St. Louis, Missouri, August 29 to September 3, inclusive.

The figure upon the obverse side—that of St. Apollonia, which has been selected to typify dentistry—is one which not only serves the symbolic end, but one which lends itself particularly well to artistic treatment.



The Souvenir Medal of the Fourth International Dental Congress.

ITEMS OF INTEREST

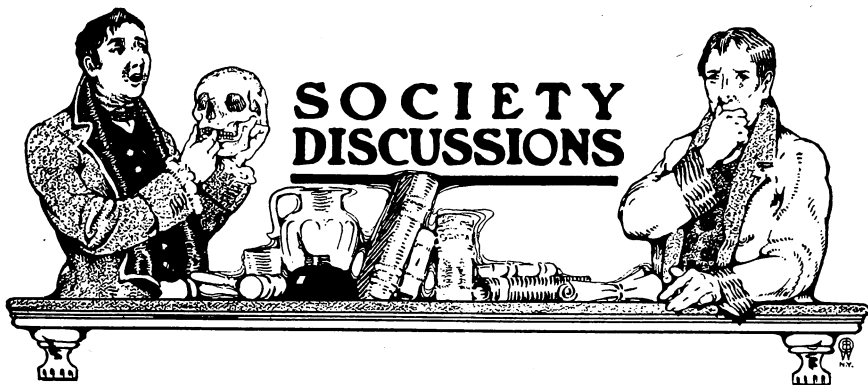
The original design from which our illustration is reproduced is an artistic representation which has both merit and beauty.

The symbolism of the reverse of the medal has been given ample consideration, and it is such, we think, as should meet with general approval. The universality and international character of the Congress movement is typified by the continental divisions of the world. The associated dates at the top of the design are those which embrace the professional life-history of dentistry. Falling gracefully down between the continents is a scroll upon which is to be inscribed the names of the recognized fathers of dentistry in all countries, each national body being asked to nominate the name or names to represent the respective countries. The pose of the eagle represents the auspices under which the Congress is to be held, and the palm branch a tribute of honor on behalf of the American profession to the fathers of dentistry.

The execution of the dies will be entrusted to the most expert die-sinker in America. The design will be in high relief, and the medal will be struck in bronze, and will be about two and one-half inches in diameter. It will be a finished work of art in all respects, and an attractive and interesting souvenir of the great meeting which it typifies.

The medal will be supplied only to those who make application for it in advance of the Congress, as the number struck will be limited to the number subscribed for. The price of the medal without a case has been fixed at five dollars. Cases for the medal will be furnished at prices corresponding with their character and quality.





Second District Dental Society of the State of New York.

October Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, October 12, 1903, at the Kings County Medical Library Building, No. 1313 Bedford avenue, Brooklyn, N. Y.

The President, Dr. Hamlet, occupied the chair.

The Secretary read the minutes of the April meeting. On motion the same were accepted as read.

The Vice-President, Dr. Hillyer, then took the chair, while the President, Dr. F. P. Hamlet, read the annual address, which follows:

President's Address.

It is my privilege, gentlemen, to again thank you for honoring me, and for contributing so largely to my pleasure in making me your president for the second time. It truly has been a source of delight to serve you in the capacity for which you elected me, and I look forward to a continuance of the harmonious intercourse and relations which have existed at all our meetings.

I would be ungrateful indeed should I not appreciate this honor, the highest that you have to confer upon your members, and I am grateful



ITEMS OF INTEREST

also for the respect and attention you have given the chair, for your patience and consideration in all matters covering my administration. I have tried to convert, as near as possible, the occurrences of this society during the year into experience, and by the exercise of my reason, that most excellent and useful gift of nature, I feel that I have profited largely by my associations with you in my official capacity.

The president of a society that is laboring for the advancement of an honored profession, should incorporate in his annual address material that should infuse interest peculiar to the growth of that profession. But, gentlemen, I am at a loss, as no doubt most men are when in a similar plight, to say the thing that might animate or inspire you. I am sure you all appreciate the necessities of this society, and are doing all you can to aid the officers in its growth and advancement. To have a successful organization, each member should do his duty faithfully,—this will bring wisdom and experience to him, and success to the organization. The prosperity which this society has achieved, and which it now enjoys has come through the instrumentality of wise and judicious men, who have watched its growth from its infancy. Some of these gentlemen are with us still. God bless them. Others who have passed on have left us memories dear. Since I last addressed you, two of our honored members have crossed the vale, and we reverently place their names on the tablet of departed friends and brothers.

Being alert to the needs of the times, our society is laboring for the highest and the best. We have given to the profession during the year much material for reflection. Brilliant essays and discussions upon subjects of vital interest go to make up our yearly book of dental literature.

Dr. Emory A. Bryant, of Washington, opened the year with a finely illustrated talk on "Practical Bridge Work." Dr. Levitt E. Custer, of Dayton, Ohio, presented "The X-Ray made Available for all Dentists." His clinical demonstrations being most profitable. Dr. D. W. Barker introduced to the profession, the new disinfectant, bromo-chloron, and read a clear descriptive paper giving its chemical possibilities, and the more important use of the article in the treatment of pulpless teeth. Two very interesting and valuable papers were read at our January meeting by Dr. C. N. Johnson, of Chicago, and Dr. R. Ottolengui, of our own society. There was a large attendance at this meeting, many gentlemen entering into the discussion of the papers. Dr. Truman W. Brophy, of Chicago, favored us on this occasion by timely remarks. Dr. J. Bond Littig gave a most concise and instructive talk on "Simple Methods Employed in Orthodontia" at the February meeting.

Those short papers by the members of this society which were read last March should be commended most highly and deservedly. They

SOCIETY DISCUSSIONS

were complete, practical, well written and created profitable results. These papers were in the direct line with the suggestion I made in my last address, urgingly requesting that a special effort be made to have that part of our order of business, "Incidents of Office Practice," represented by just such productions. I am very glad to observe, as I know you all will be, that our committee has included one or two evenings for short, bright papers, by our own members in this year's programme. I hope, gentlemen, you all will enter freely into the discussions this year, particularly the younger men. Disrobe yourselves of all shyness. You may find it difficult to speak upon a subject the first time, but each time you make the attempt you will find it easier.

Sir Isaac Newton kept secret for years some of his greatest discoveries for fear of the notoriety they might bring him. When he communicated to Collins his solution of the theory of the moon's rotation around the earth, he forbade him to insert his name in connection with it, because it might increase his acquaintance. I hope, gentlemen, none of you will suffer timidity to such degree. These meetings are for you to ventilate your ideas, and if you have any discoveries, do not keep them to yourself, bring them here where we can all be benefited, and so advance the cause of dentistry. Failures might come, but they will have the effect of forcing you to apply yourself to something grander still. The best you can do will not come at the first trial. Even the smoothest polish of solid bodies would present pits and prominences if exposed to the scrutiny of the microscope, and although *we* may not reach that ideal excellence, which we have ever in our minds, yet we can strive for it. Let us go hand in hand; it will make our labors lighter and the bond of good fellowship firmer.

As an evidence of good feeling among dentists, I draw your attention to the fact that a society having for its chief object fraternal relations has blossomed and borne good fruit. This organization will be known as the Interstate Dental Fraternity, and although having been organized but a few months, it has assumed a proportion that is interesting indeed. I mention this to show you how strong this fraternal idea is with us. At the recent meeting during the sessions of the National Dental Association there were one hundred and fifty names enrolled, fifty applications to be acted on, and no less than one hundred members attended the first annual banquet.

Our programme for this year has been arranged with the usual care, by our committee, each meeting being already filled up with good things, and we all hope to have a good attendance and a general good time together this winter. It has been deemed advisable to omit the December meeting, your committee thinking it best to do so owing to the difficulty



ITEMS OF INTEREST

in procuring a suitable paper at that time of the year, when everyone is engrossed in business and holiday plans. Dental societies are to numerous in this locality, an evidence of the interest we take in our profession, and the demands on the gentlemen whom we accustom ourselves to rely on for instruction are so great that they simply have to decline many invitations, for fear that the reading of a paper in one society might make it necessary to write for several in order to keep peace and harmony in the household. For that reason, gentlemen, it is imperative that we depend more on ourselves for essays and there is no better time than the present to begin.

Ideal Anchorage for Gold Contouring in Incisors.

I wish to present to the members of this society a method of anchorage which has proved superior to all others in my practice. The dovetail

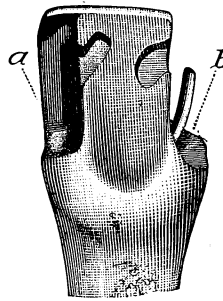


Fig. 1.

undercut or retaining groove at the cervical margin may be made easily without endangering the pulp or causing structural weakness. It is only at the incisive portion of tooth that we find serious trouble. If the dovetail be cut in the dentine the enamel is without foundation, and only good fortune will preserve it against chipping. When the anchorage is cut through palatal enamel, only far enough to reach the dentine, the strength of the cutting edge of the tooth is preserved. The filling is stronger, with little danger of breaking away through lateral stress. This point is illustrated in Fig. 1 a. The key or dovetail should be slightly undercut to aid in retaining the first pieces of gold. Not only have we stronger anchorage and filling, but the operation is much easier. The pulp, if alive, is in less danger of thermal shock. All deep cavities, if pulp be alive, should be lined with cavatine or chloro-balsam and enough cement placed therein to strengthen walls and protect the pulp.

If the tooth be pulpless an iridioplatinum pin should be cemented into pulp canal and extend into the cavity three-quarters of cavity length. (Fig. 1 b.) A great deal of the stress is thus placed on the parts best able to bear it. In conjunction with the palatal key-dovetail the largest contour may be built with safety. I am aware that other methods may be employed, but believe this one gives the best results, with less sacrifice of strength and tissue.

Discussion on Dr. Hanning's Paper.

Dr. Hutchinson. In regard to this method of procedure, what I have to say will be purely theoretical, as I have never tested it; but it appears to me (theoretically) rather unsafe. To begin with, in cavities as extensive as those shown in the model, the pulp has receded to a considerable extent, to permit us to put a very wide dovetail at the cervical portion of the cavity. If the groove

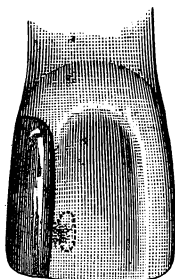


Fig. 2.

is made wide enough, we will have sufficient body to stand considerable lateral stress; but I do not think it is safe to depend upon that alone. In cutting these dovetails in the palatal enamel, the depth is not sufficient to afford any considerable anchorage, and it presents an acute angle which I should think would be liable to chip away. The method I would prefer is to make a retaining point about the size of a No. 2 bur in the dentine. The pulp has receded sufficiently to allow it to come up in the dentine, not in the enamel at all. We thus form a headed retaining point of gold. Fig. 2, and that will steady the filling. I have never used an anchor post; I do not think it is necessary. I think you get sufficient strength in the cervical portion of the cavity with the gold, to do away with the posts or pins. My fillings have stood up without them, and with the retaining point below.



ITEMS OF INTEREST

I said at the start my objections are theoretical. I have not the slightest doubt that Dr. Hanning has proven this method to be sound and successful, or he would not have presented it. I know what it is to have one's experiences opposed by theory. That does not weaken it in the least when it is used practically. However, it seems to me that that is a rather weak anchorage.

I have seen a great many of those contour fillings break away where the anchorages of gold remained in place—the gold breaking away from the stress placed upon it. It seems to me unless those lateral keys, as Dr. Hanning calls them, would go pretty deeply, there would hardly be enough strength to stand the stress. I agree with Dr. Hutchinson that you must go pretty deep in order to get strength enough of gold to stand the strain.

Dr. Abbott. I would like to ask Dr. Walker, in a cavity of that kind, how he would get anchorages?

Dr. Walker. There have been a variety of methods. One is to cut a V into the cutting edge, to make a good strong corner over a hook, so to speak. Another is to put retaining screws into the enamel near the cutting edge to hold that part of the tooth. If they are set in at an angle, they are certainly very strong. To my mind it makes the strongest kind of a retainer you can have. Others undercut, leaving the edge very thin and weak. I have seen that done many times.

Dr. Hutchinson. The method I spoke of was to make a sort of mushroom of gold. Make your cervical groove as wide and deep as possible. That runs above the enamel margin. You need not take the weakness of the enamel into consideration. There is no danger of chipping. You can make a good wide, deep groove in the cervical portion of the cavity and the gold will be sufficient to give it rigidity. I suggested making a pit transversely going directly in far enough above not to encroach on the enamel, exactly straight in, and then revolving the bur, giving it a sweep so as to head it out. You will not encroach on the pulp.

Let us suppose the pulp has receded. We can make this pit transversely straight in, and then with a sweep of the bur enlarge it at the bottom. That will form a headed point of gold, Fig. 2, which simply aids the cervical anchorage, and sustains the lateral stress that is put upon the contour to keep it from pulling out. The probability is it would stay in even if that retaining point were not made, but would pull away to show a slight leakage or discoloration. We have not marred the enamel on the lingual surface of the tooth—we have none of those acute angles which are weak

SOCIETY DISCUSSIONS

points, and we have the contour sustained from front to back. We have a stronger retention in the center of the contour, and it will not pull away.

Dr. Hyatt.

Suppose the pulp had not receded.

Dr. Hutchinson.

I never saw such a case. The pulp recedes as decay advances.

Dr. Hyatt.

Suppose it were a broken tooth, not decay?

Dr. Hutchinson.

I should not put a contour then unless I devitalized; then I would go in as far as I liked.

Dr. Abbott.

Does not the Doctor think the anchorage would be just as strong with the undercut?

Dr. Hutchinson.

Yes.

Dr. Abbott.

Do you undercut your retaining points?

Dr. Hutchinson.

That is practically a dovetailed cut.

Dr. Abbott.

Where you use a retaining point, do you undercut it?

Dr. Hutchinson.

I do not use undercuts, except in a case like this.

Dr. Nodine.

At college we were taught the lingual retention, about one-third down through the dentine and enamel—that is on the palatal surface.

Dr. Provost.

I can speak of a practical case from experience. In the lingual surface there were little pits with the decay extending somewhat into them. I was obliged to cut into them somewhat and it made quite a strong retaining groove directly in the lingual surface of the tooth. I found that would give me a great deal of anchorage there; so after placing the inlay in the cavity without any cement whatever, it was practically strongly anchored, so it would not move laterally, either forward or back or sidewise. I have been tempted since to utilize that method for other cases, although I have not done so.

Dr. Keppy.

If I were doing that, I should put in a screw in that little hole suggested by Dr. Hutchinson. It would not be larger than a No. $\frac{1}{2}$ bur, and I believe you get more strength from the screw than you would from a No. 2 hole drilled in the tooth; besides, it would be safer.

The President.

How near the cutting edge?

Dr. Keppy.

In the dentine surely. Also, in inserting a filling as large as that I quite often put two little screws in at the top where you start the gold. I think that greatly adds to the strength of the filling.



ITEMS OF INTEREST

My method is the screw method. In putting in a filling of that description I should use a screw at the lower edge. I never use a screw at the cervical edge. Dr. Hanning's preparation of the enamel, to my way of thinking, is very weak. An acute angle or a right angle cut on the palatal surface makes a very frail point. If there is any movement or compression of the gold in mastication, the enamel has no support and must tend to yield at that point. You will find those fillings that do break down show recurrences of decay which occur at that place.

Dr. Ferris. I have used the dovetail method for quite a number of years with success, dovetailing higher than Dr. Hanning does. I have been very successful with it.

Dr. Ash. I made only one remark when the model was passed around, and it was similar to that made by Dr. Seaver. I thought the dovetail was too close to the cutting edge. I have cut the dovetail in the enamel and through as far as I felt safe in going into the dentine, but I made it farther up, more than or fully half way up. I have had very successful results from it.

Dr. Hyatt. I do not know if many members have used William's crystalloid gold. I use it entirely for starting all gold fillings, and in a cavity of this kind, in using the William's crystalloid gold, I endeavor to get as deep and as strong a dovetail groove as I can with an inverted cone bur and then with my hand instrument—a quite narrow hoe, I make a groove on each side of my retaining pit, using a No. $\frac{1}{2}$ bur, making that one solid piece of William's crystalloid gold, and build on my foil thereto. It has given me great satisfaction without having to make undercuts.

Dr. Wickes. I would say that the day has gone by when I spend very much time on such large contour fillings. I do not like so much display as this model would designate. I think with the porcelain we now have it is hardly excusable for one to put in those large contour fillings. If I were to put one in, I should use a screw up toward the cutting edge of the tooth, with an undercut at the cervical margin of the cavity.

Dr. Ottolengui. I did not hear the paper; from the discussion I understand that you are talking about incisor teeth, and that you use dovetails somewhere towards the incisal end to retain corner contours. It seems to me that a contour filling in an incisor should be anchored in such a way that if the lower third of the tooth should break away, the filling would still remain as tight as it was when you put it in. That would mean that no part of the anchorage would be down towards

SOCIETY DISCUSSIONS

the incisal edge. That is undoubtedly the weakest portion of the tooth. It is the narrowest between the enamel plates, and the less cavity you have there, the better. The more cavity you make in the shape of dovetails, the more weakness you will have in the part of the tooth which is inherently weak. Conversely, the thickest part of the tooth is at the cervical diameter, and there you have opportunity to make all the anchorage you require in the very densest portion of the tooth, and in places where you are cutting away from the pulp instead of towards it all the time. As I say, those corners can be anchored in the frailest kinds of teeth. For example, take central incisors in the lower jaw, and contours can be built on both sides, meeting at the top without touching each other. I cannot see any use in the screw. I have been in practice about twenty-five years, and I used screws for about five. I have found the main result of the screws was to prolong the operation without adding anything to its strength. But I never placed a screw transversely in the incisor region. This particular cavity shown in the model seems to me to lack anchorage just where it most requires it, and to have anchorage where it does not require it. I cannot see that the dovetail suggested adds any strength to the filling.

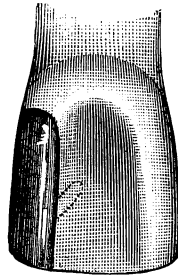


Fig. 3.

Dr. Jarvie. I have listened with a great deal of interest to what Dr. Ottolengui said. I agree with him as to strong anchorages cervically. I should make as strong an anchorage as I could here, going away from the pulp, and in a strong part of the tooth, and I should bring my undercut down as far as I could, depending somewhat upon the condition of the walls; but I should also get a little anchorage just as Dr. Hutchinson has said, in the dentine, although my way of doing it has been a little different from his. Instead of making a mushroom-shaped cavity, I prefer to run it up slightly (Fig. 3). What Dr. Ottolengui says is all very well. You may get a very firm anchorage of your filling in the cervical walls, but just see the length



ITEMS OF INTEREST

of gold that is left entirely unprotected against any lateral force. We get a strong pressure and pure gold is sufficiently soft to yield under a pressure unless you have something to restrain it. I do not myself think as large a contour filling as that is very good; I would rather put on a porcelain crown or a porcelain tip, for I abominate this display of gold in the mouth. Sometimes it cannot be avoided; but do not display it where you can avoid doing so.

The model represents an excessive cavity, it is true, but I have filled cavities as large as that, and some of them have been there four years. I have them under constant observation. Some of the criticisms have hit all around the question, and some have hit wide of the mark. You have forgotten the foundation. You know better when you are using your head and hands at the chair. The foundation of the tooth is the dentine, and that is the reason I only go into the enamel. Gentlemen, under that corner of enamel is a foundation of dentine, and the enamel will stay there.

Dr. Hutchinson no doubt gets results just as he tells you. No man is foolish enough to make statements before this society that are not true, because if he does, they will come back to him. He puts his mushroom right in the place where he ought not to—right in the foundation of the tooth, and the dentine is that much weaker. He does not encroach on the enamel, but nevertheless there is that much foundation gone.

As to Dr. Ottolengui's anchorage, that is a good idea. I did not make any point of anchoring at the cervical margin. My idea is to put the gold filling there so it will stay up to the cavity wall. If it moves ever so little, it will leak, and if it does there will be recurrence of decay. As for using screws, that is not a screw; that is a platinum or irridio-platinum pin such as Dr. Van Woert long ago recommended. He cited a case which I knew where it was a success. He did not use the incisal key. I use it to get as much strength as possible. You have not a continuous mass of metal, and it is stronger with a key of the metal.

I read long ago in some magazine—I don't remember whether Dr. Black, or Dr. Johnson, or Dr. Libby wrote it—of an extension in the palatal portion. I do not think this will break away, because I have been using it, and I have not had it break away.

I do not doubt that your fillings do not break away, but I do not think that incisal anchorage prevents them from breaking away.

(Illustrating.) Dr. Ottolengui speaks of the corner. By all means restore the shape; but if you put Dr. Hutchinson's miserable little retaining point there

SOCIETY DISCUSSIONS

you take the strength all out of the tooth. I have seen too many of them. You have weakened it, and it will break away. I think the one Dr. Jarvie puts in is a decided improvement, because it runs the other way. If that key is brought in higher up, as some recommend—in a case where you can put it in—I think it would be better, but sometimes the pulp is in danger of thermal shock, and I must put it in the other way.

Dr. P. B. Engel then read a paper entitled, "Some Causes for the Discoloration of Gold Fillings in the Mouth."

Discussion of Dr. Engel's Paper.

Dr. Jarvie.

The subject of the discoloration of tooth substance around gold fillings and the surface of the gold filling itself has interested dentists in active practice ever since we began to fill teeth with gold. The first cases spoken of by the essayist—those due to leaving decay in the cavity that has been filled, and those having defective margins—cases of discoloration due to defective manipulation, I think we might eliminate entirely from our discussion, but the other discoloration—that which comes upon the surface of a nicely finished gold plug, is a different matter. I must confess that the cause is unknown to myself in many cases. Some twenty-five or thirty years ago, this subject created a great deal of interest in the dental profession in this vicinity, and many of the meetings were occupied with discussions on this subject, and various reasons given for it. Late this afternoon I looked back through the pages of the *Cosmos* of 1877, 1878 and 1879, and I found the reports of quite a number of meetings where this subject was discussed. Some dentists gave one cause, and some another. I just jotted one or two of them down. W. H. Tea says in the *Cosmos* of December, 1877, that the discoloration is due to steel or iron from plugger points impacted in the gold, and these particles of metal have been dissolved by the surrounding surface and deposited in the gold.

Another says these cases are comparatively rare; that they occur with all makes of gold and all classes of gold, whether sponge gold, which was used largely at that time, or foil, and it might occur in one gold plug, and a plug near by not be affected at all. One plug might be bright, and another near it might be badly discolored. Quite a number of dentists thought it was due to a small proportion of copper in the gold—that the gold was not refined as it should have been.

One dentist said it was due to sulphurous acid gas set free in the mouth from various foods that had sulphur in them. Another said sulphuretted hydrogen. There seemed to be a general acceptance of the theory that it was largely found in the mouths of people who ate an





ITEMS OF INTEREST

unusual quantity of eggs, and that it was caused by the sulphur that was freed from the egg.

Whatever the cause may be, we do undoubtedly sometimes see a discoloration upon the surface of a finely finished plug, and in the vicinity we may find one not at all, or only slightly discolored. In such cases the discoloration is readily removed, but sometimes we are causing a great deal of annoyance, and our patients think (whatever they may say) that there has been rather an inferior quality of gold used. I recollect a number of years ago I put in quite a number of fillings in the incisor teeth of a certain patient, and was rather proud of their appearance. I showed them to several dentists as a piece of rather skilfull work. About a year afterwards I received quite a denunciatory letter from the husband of the lady, asking whether I had not used some kind of mixture in those gold fillings, because they were all black and in a shocking condition. I said I could tell better what the trouble was if his wife would come in. She did so, and I found the surfaces looked oxydized—just as a piece of copper would—some dark brown and some a greenish tint. A few moments' polishing with fine pumicestone and a stick left them in as nice a condition as ever.

I am at a loss as to the cause of such conditions. The essayist has advanced the idea that it may be due to some ingredients used in certain tooth powders. Whether that is true or not, I am not prepared to say, because we see it in so many different mouths and it occurred when those powders were not in use—although the same ingredients might have been in those that were used at that time. Nor can I think it is due entirely to neglect. Of course, if those fillings and the surfaces had been kept bright by attrition of tooth powder and brush, they would not have discolored; but why should some discolor and others not?

A Member. Was there any recurrence in the case you mentioned?

Dr. Jarvie. I cannot say; I did not see the patient again.

Dr. Ottolengui. Dr. Jarvie has quoted from the literature of 1877, 1878 and 1879. I want to ask whether he does not think that such discoloration was more prevalent at that period than it is to-day.

Yes, I do think so. Cases were very much more frequent then. Now it is comparatively rare that they come under my observation. They were quite common at that time, and perhaps that is why the discussion was so frequently up before the societies.

SOCIETY DISCUSSIONS

Dr. Ottolengui. I remember those discussions very well. I had just come into dentistry. The matter was discussed a great deal, and many dentists claimed that the fault was in the gold. It seemed a natural thing to believe. I recall about that time that certain manufacturers came out with statements to prove the purity of their golds. There was one firm, I remember, that claimed there was no such thing in the world as absolutely pure gold, but that they were making a gold that was 999.9 fine. I believe, without having knowledge on the subject, that the discussion by the profession led to better methods of refining the gold. We have less cases of discoloration, because we have better gold than in those days.

Dr. Jarvie. At that time it was said that plugs made of Watts's crystal gold were more liable to discolor than any other, so much so that it led almost to its disuse by the profession at that time.

Dr. Hutchinson. I have noticed a brassy appearance in a number of instances within the last two years, and have found that in each case the patient used a certain tooth powder which is widely advertised. The effect was very noticeable all through the mouth, in the fillings and on artificial pieces. A rather peculiar incident happened in my practice five or six years ago. I put in some large approximal fillings from one lot of gold, not at one sitting, of course, but all made from the same lot of gold. In one of the cuspid teeth the fillings turned a brilliant copper color—not oxydized, but a real copper color. I polished them, and a week after it returned again. That was not from any tooth powder. I generally recommend to my patients a tooth powder of which I will give you the formula:

2 ounces of precipitated chalk.

1 ounce of orris root.

½ ounce of castile soap.

1 ounce of bicarbonate of soda.

Flavor with oil of wintergreen.

Dr. Ash. I once had a case for which I have not been able to account. I will state the facts and you can draw your own conclusions. About the time when I started in practice, one of my friends generously came to be practiced upon. I put in a series of approximal fillings in the incisors and cuspid teeth, and it happened that in the left central there was a large cavity in the posterior approximal surface. When the work was completed, the patient went away, feeling fairly well satisfied, but he returned in about ten days or two weeks, and wanted to know why one of those fillings had turned black. I was rather astonished to find that the large filling in the





ITEMS OF INTEREST

posterior approximal surface had turned almost black. I polished it up, examined the surface of the filling and took the burnisher to find out if the surface was soft. It was not, and I could not account for it. I polished it up and told him he should take care of it and keep it polished. He returned in two weeks' time again, and the filling was just as bad as before. I said to him: "You know all the fillings were put in with the same gold, out of the same box?" He said yes, he knew it, and he had no reason to suppose there was any fault in the workmanship. I was not very busy then, and I said I would take the filling out and put in another. I did so, and the result was no better. I could not understand it. It went along for a while, and finally he came in and said that rather than have that black streak in the front of his mouth he would have the filling out. I did not know what to do. I devitalized the tooth and replaced the filling, and now it is as good as any other tooth in the mouth.

Dr. Jarvie.

To what do you attribute it?

Dr. Ash.

I do not explain it at all; I do not know anything about it.

Dr. Van Woert.

It is so long since I have noticed the discoloration of gold fillings that I hardly know how to discuss the subject. I do not think for a number of years that the question of discoloration of gold has been of any importance in my practice. The condition which has been spoken of tonight as a "brassy" appearance, or a dead surface, I have noticed in one or two cases only, and whether it is Dr. Jones' tooth powder, or Dr. Smith's, or any one's else, I do not know. I only know that the gold will not stay bright in those mouths, and I have found a better way of curing it than taking out the gold fillings and putting them in again—I have replaced them with porcelain.

Notwithstanding what I said before this society some time ago, I am free to acknowledge that I have gone to the altar and been converted. Now the question of gold fillings in the front of the mouth is a rare thing at my office. If it is very far towards the front—on the side teeth, the bicuspid for instance, in a large majority of those cases porcelain is substituted. If it is the molar teeth, I care very little if it does have the brassy appearance, so long as the fillings preserve the teeth. Therefore the subject is out of my line a little, as I have not enough of it to know why these things occur. A great many years ago I found where one or two fillings in particular showed a marked discoloration, turning almost black, that I could trace it to the insertion of amalgam fillings at the same sitting when the gold fillings were put in; and when the gold was taken out and a new gold filling placed there, I do not think they discolored again. I referred to my register, and in every case I found I had inserted

SOCIETY DISCUSSIONS

one or two amalgam fillings at the same sitting when the gold filling was put in.

Dr. Fanning. Is it not a general thing in those cases of discoloration that the patient does not get his tooth brush there—that the place is not so easily cleansed.

We all have patients who look at us with tears in their eyes and say they clean their teeth until their gums hurt, and yet you see all along the margins and in the approximal spaces that sticky mass of food debris. I do not doubt that some tooth powders affect the gold, but in my practice, which is mostly among men, I find the discoloration in teeth which are not kept nicely. They do not clean their teeth as often as they wash their faces; they say they do not have time.

Dr. Ottolengui. After what the essayist tells us, if a tooth manages to escape the tooth powder, it ought to keep bright, for we have been told it is the fault of the powder. I have a similar instance in the mouth of my own brother, where I can readily see it—a lateral incisor which I have twice refilled in order to get rid of the discoloration. That tooth was not in a position where it would escape the brush. He suffers periodically from attacks of gastritis, and when he is under treatment and the gastritis is under control, the filling remains bright, but when he has the attacks, the filling discolors. It may be that there is an influence on the mucus glands in that particular location, which affects the filling. The gold fillings in the posterior part of the mouth are not so affected. In those parts there would be less action from the secretions of the mucus glands because of the admixture of saliva. This discoloration is more likely to occur in the upper six front teeth, and it may be worth while to examine into the question in relation to the mucus glands. I suggest that because there are so many gentlemen who are examining the oral fluid at the present time that it may be a hint.

Dr. Engel. I am glad to see that others have noticed the discoloration produced by a certain tooth powder. The sample marked No. 1 has been produced by Lyon's tooth powder. I refer to it because that powder seems to cause it more than any other. Other powders which cause discoloration are Colgate's and Thurston's. All of these happen to have the oil of winter-green flavoring, but I would not condemn them for that reason. Some of the gentlemen have mentioned cases of discoloration of fillings, where the teeth alongside had fillings which remained perfectly bright. It was mentioned that this might be due to improper brushing. If the person does not use any of those tooth powders which discolor, it might be caused by improper brushing. If he uses the right powder and brushes



ITEMS OF INTEREST

correctly and reaches that particular filling, the chances are it will remain as bright as the others.

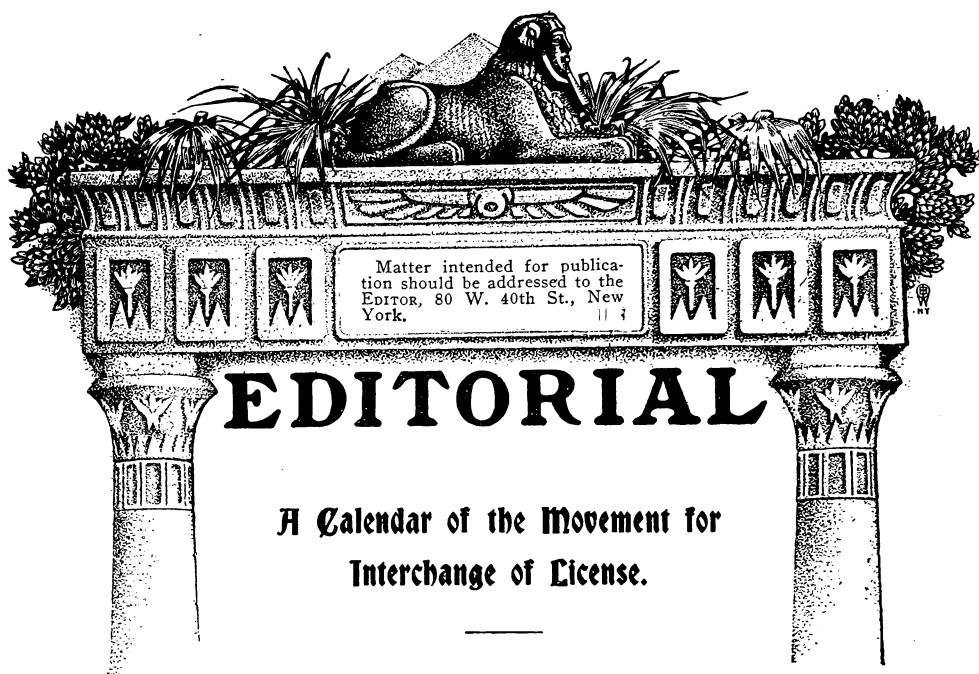
The quality of the gold was also mentioned. I think some manufacturers in former years when cohesive gold was brought out merely used the mint gold, rolled it, beat it out and put it upon the market. That was one of the causes for discoloration. I formerly used a gold that I think was a little impure in that respect. I notice in comparison with the gold I use now that those fillings took a very fine polish, but the moment the rubber dam was taken off and the saliva reached them, they assumed a brownish tint, whereas I do not notice it in the finer quality of gold which I now use.

Dr. Ash mentioned a filling in the posterior part of a bicuspid that turned black, which he took out and put in again. I think we can say in that case that it might be due to the method, for as a rule a man does not change his method in so short a time. That might have been due to excessive burnishing with a steel burnisher.

I do not think so; because after I devitalized the
Dr. Ash. tooth and refilled in practically the same manner with the same material, it stayed bright.

I thought the subject of discoloration of sufficient importance to bring before the Society, because
Dr. Engel. it seems to be caused by the use of certain powders which are advertised extensively, sold by druggists, and even advised by members of the profession. I have not been able to find out the real cause of it. I tried experiments by using the different grades of wintergreen. There are three varieties of the oil of wintergreen. I strongly suspected it might be that, so I obtained the three varieties—one, the oil of gaultheria, another, made from the sweet birch, and the third, a synthetic product; but I could not obtain any discoloration outside of a slight scratch from the main ingredient used. It would probably need the aid of a practical analytical chemist. In the future, with such aid, I might be able to bring before the Society the real cause for the discoloration which these powders produce.





As the subject of obtaining an interchange of license between the various States has received considerable attention during the past twelve months, it may be of interest to set down where they can be studied seriatim, certain occurrences connected therewith.

June, 1903. An editorial appeared in *ITEMS OF INTEREST* under the title "A Solution for the License Interchange Problem," in which was briefly outlined some of the many difficulties which hinder its attainment. A plan was formulated and it was suggested that this plan should be adopted by the National Association of Dental Examiners at their meeting in Asheville. The following is part of the language used: "Should this be done this summer at Asheville, and should an amendment in identical language be introduced next winter into the legislatures of twenty or thirty States, it is conceivable that in five, ten, or twenty of them the amendment might be adopted. If so, interchange of license would be inaugurated in several States within a year, and the number would be augmented from time to time.

"Such an amendment, however, must be so couched as not to antagonize any just interest, neither the colleges, educational standards, nor



ITEMS OF INTEREST

the welfare of the people. The following is a proposal which seems to meet these requirements.

"In substance, let it be enacted that any licensee of a State Board, who has been in legal practice within his State for a period of five years (or three perhaps) after having obtained his license, may apply to his own State Board for a certificate stating that he has been in legal practice for the term mentioned, and that he has during that time so conducted himself and his business that his State Board feels justified in recommending him for a license in the State to which he desires to remove. Secondly that upon receipt of such a recommendation from another State Board, an interchange license may be issued."

At the meeting of the New Jersey State Dental
July, 1903. Society at Asbury Park, in July, 1903, Dr. C. S.

Stockton asked for the indorsement of a plan of interchange which he proposed to introduce before the National Association of Dental Examiners at Asheville. Dr. Stockton's scheme was quite similar to the one quoted above from ITEMS OF INTEREST, the main difference being that Dr. Stockton insisted that no legislation in this matter would be necessary.

At the same meeting Dr. Kirk read a paper on the subject of interchange, during the discussion of which Dr. E. A. Bryant, of Washington, argued that no help might be expected from members of dental examining boards and used the following language:

"If you have any idea of getting reciprocity throughout the country you must take hold of new men who are willing to work and let them get out and hustle; let them appear before the State legislatures and you may get what you want but you will never get it from the colleges, through the State Boards of Examiners or through the National Association of Dental Examiners."

Dr. C. S. Stockton introduced his plan for interchange before the National Association of Dental Examiners and succeeded in having the following
August 1903. indorsed.

"Resolved, That an interchange of license to practice dentistry be, and is hereby recommended to be granted by the various State Boards, on the following specific conditions:



EDITORIAL

"Any dentist, who has been in legal practice for five years or more, and is a reputable dentist of good moral character; and who is desirous of making a change of residence into another State, may apply to the Examining Board of the State in which he resides, for a new certificate which shall attest to his moral character and professional attainments, and said certificate, if granted, shall be deposited with the Examining Board of the State in which he proposes to reside and the said Board, in exchange therefor, may grant him a license allowing him to practice dentistry."

The New Jersey State Board of Dental Examiners adopted the Asheville resolution and sent out a circular letter requesting the other boards to form an agreement with them looking to the interchange under these conditions. Up to the present time we have not heard that one State has acquiesced to this proposition.

The Examining Board of the District of Columbia introduced a bill amending the dental law, and Dr. Emory A. Bryant introduced an amendment to the bill enacting the Asheville resolution. An amusing incident in connection therewith lies in the fact that almost the first effort at attaining this reciprocity is attempted by legislation and Dr. C. S. Stockton, who declared that legislation would not be necessary, gave Dr. Bryant most efficient aid by introducing him to Senator Wiley, of New Jersey, who has given Dr. Bryant material assistance in the stages thus far reached. Dr. Bryant succeeded in having his amendment reported favorably in the House Committee and again in the Committee of the Senate. On January 19, he succeeded in having the bill passed in the Senate. On the same day, much to his surprise, he found a hindrance to the passage of the bill by the House because certain members of the Examining Board protested against the amendment, introducing in its place a substitute carrying somewhat similar ideas but erecting conditions and requirements in accordance with the individual views of the men who had drafted this substitute. At the present writing it seems probable that Dr. Bryant will succeed in having the Asheville resolution adopted in the House also, in which case he must be credited with obtaining the first legislation mak-





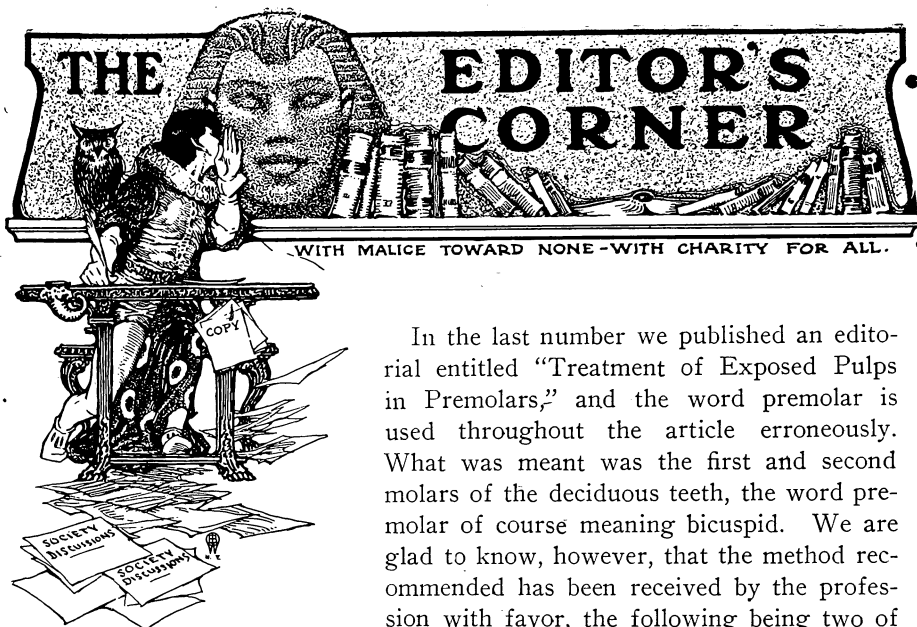
ITEMS OF INTEREST

ing a law of the resolution formulated and recommended by the National Association of Dental Faculties and this against the opposition of members of that body. Events have proven the correctness of Dr. Bryant's prophecies at Asbury Park.

Those who attempted to pass a substitute for Dr. Bryant's amendment overlooked the fact that the diversity of dental statutes throughout the country is due to this very idea, exhibited by so many dental law makers—viz.: that they can draw a better bill than others have drawn. Why depart from the language of the Asheville resolution?

Professional Clinics.

At the recent anniversary meeting of the First District Dental Society of the State of New York a feature comprised a long list of clinics and a large display of manufacturers' products. In our comments on the Asheville meeting we called attention to the fact that distinction should be made between clinics given by professional men solely with the unselfish purpose of explaining the details of some new or useful preparation and those so-called clinics, the purpose of which are to introduce some new article of manufacture in which the clinician is personally interested. The Executive Committee of the First District Dental Society are to be congratulated on the sharpness with which they drew the line, it being noticeable that several prominent dentists were included among the manufacturers, their clinics being given in the display rooms where they had paid for the space occupied just as other exhibitors had done and this because of the fact that however interesting and useful their clinics were, they were really exhibiting a manufactured article and taking orders therefor. It would be well if committees of other societies would follow the same rule.



In the last number we published an editorial entitled "Treatment of Exposed Pulp in Premolars," and the word premolar is used throughout the article erroneously. What was meant was the first and second molars of the deciduous teeth, the word premolar of course meaning bicuspid. We are glad to know, however, that the method recommended has been received by the profession with favor, the following being two of numerous similar letters received.

**Pressure Anaesthesia
in Deciduous Teeth.**

Dr. H. F. Hamilton, of Newport, Vt., writes as follows: "I consider myself obliged to you for the suggestion contained in the editorial of the last number of *ITEMS OF INTEREST* relative to the removal of pulps from the deciduous molars. It has been of inestimable assistance to me, the information coming at a very opportune time as I had in my office on the day of reading a young Miss of seven who had been suffering intensely from an exposed pulp. Feeling that no more favorable opportunity would present for experiment, I proceeded according to directions and was rewarded with the most satisfactory results. I have been able to try the same procedure four different times since with the most gratifying results."

Dr. Frank I. Shaw, of Boston, Mass., writes: "Dear Doctor: I wish to tell you that your editorial in the *ITEMS OF INTEREST* pleased me very much. During the past eighteen months I have used pressure anaesthesia in the treatment of exposures in deciduous molars and think it the only humane as well as skilful method for such cases. I have discovered that if at first the sensitiveness is not controlled by pressure, rapid results may be obtained by applying a crystal of cocaine immediately over the exposure and then a small pledget of cotton dipped in adrenalin, the



ITEMS OF INTEREST

pressure then brought to bear has a more penetrating effect as the crystal dissolves. Every practitioner who adopts this method with his little patients will receive gratifying results and everlasting thanks."

The Schreyer Method in Pulp Canal Treatment.

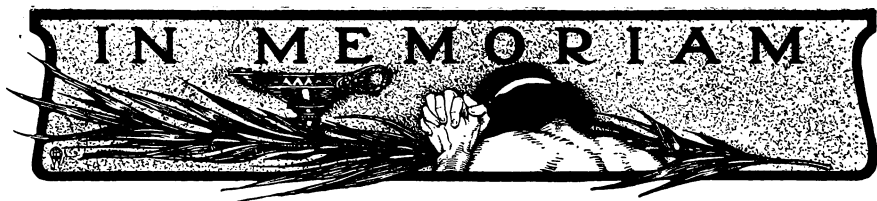
We have received several requests for a full description of the method of using sodium and potassium, otherwise known as the Schreyer remedy in root canals. The combination of sodium and potassium is obtainable in small glass tubes, the metals being covered and thereby protected by a thick layer of paraffin. It is quite necessary that at all times when not in use this paraffin should be kept intact as the metals readily oxydize when brought in contact with the air. It is probably for this reason that many have abandoned the use of the Schreyer remedy, whereas with very trifling precautions, a tube can be kept in good order until entirely used. The method is to use a slightly warmed instrument and quickly make a hole through the paraffin, then through this hole enough of the preparation for each application is obtained by inserting a Donaldson bristle. Immediately after using the hole in the paraffin should be perfectly closed by applying a warmed ball burnisher and melting the paraffin so that it flows into the opening. The Schreyer remedy will be found invaluable in entering minute apertures of root canals, and it will often be discovered that what may seem at first to be an exceedingly fine canal will be much larger throughout the lower two-thirds of its extent, only the upper portion having become attenuated by deposits of secondary dentine. On opening such fine canals I prefer a Donaldson bristle, which is held against a carborundum stone and ground to have three sides. This slightly roughens the bristle so that it takes up the remedy better and at the same time forms it somewhat into a reamer. This is passed into the opening of the canal and pressed firmly forward as it is slowly twisted, the material assisting in enlarging the canal. With little persistence canals such as are found in the buccal roots of upper molars of people past middle life can be opened usually to their apices. As an evidence that this is true, I may cite the fact that frequently in the presence of buccal abscesses I have had the satisfaction of seeing pus coming through buccal canals which at first could barely be discernable. It is best not to use a barbed bristle until after the canal has been freely explored with one of the three-sided bristles described above, as there is always a little danger of breaking off the barbed portion; the canal being well opened, however, more of the remedy can be carried in with a barbed bristle and the canal better cleansed. If there be putrescent pulp material in the canal, it can frequently be washed out with a strong hypodermic syringe. It is best to use this syringe several times during the operation.

EDITOR'S CORNER

Wire Ligatures. From time to time in our literature it has been recommended to use the wire ligature instead of silk in connection with the application of the rubber dam, but this recommendation has not met with a wide adoption. The reason probably is that no suitable wire has ever been found. Recently an attempt was made to use such a ligature, making use of the ligature wire prepared for those who adopt the Angle method of regulating teeth. The success was most gratifying and this Angle ligature wire will be found extremely useful in many difficult cases where the cavity has a margin extending beneath the gum. The ligature wire can be applied and twisted firm and then pressed so as to expose all portions of the cavity, the wire remaining in place, which, of course, the silk would not do. Another mode of using the wire suggested by Dr. J. M. Thompson, of Detroit, Mich., also serves a useful purpose. In this mode the wire is first doubled into a loop and the loop end twisted so as to form a tight rope-like end. The two ends of the wire are then spread apart, then around the tooth and twisted on the opposite side of the tooth to be filled. This is then cut off and we now have a twisted loop of wire on both the buccal and lingual aspects. These are bent so as to lie over against the tooth, the rubber is slipped on and the ends turned back. By this means the rubber can be held even on a short tooth where it would be difficult to use a clasp.

Interstate Dental Fraternity. At the Fall meeting of the New York branch of the Interstate Dental Fraternity, a discussion was held as to the best means of making these meetings interesting without following the set form of a dental meeting, thereby interfering with the programmes of the local dental societies. The general trend of the discussion seemed to be in favor of some sort of entertainment which should be outside of dentistry. Announcement is made that the next banquet and meeting of the Fraternity in New York will be held on February 19. There are to be no dental papers or reference to dentistry of any kind. It is hinted that the vice-presidents have arranged a most promising entertainment for those who attend. Whilst only members of the Fraternity can attend these meetings it is hoped that many members from nearby States will come over for an evening of conviviality as it is not necessary to be a member of the New York branch in order to attend meetings, all meetings being open to all members. Guests may be invited by obtaining permission from the vice-president of any State.





Dr. T. B. Welch.

Died, at Overbrook, near Philadelphia, Pa., on December 29, 1903, Thomas Bromwell Welch, M.D., aged seventy-eight. Dr. Welch was born in Glostonbury, Somersetshire, England, on December 31, 1825, and came to this country when quite young. He obtained his education in the public schools of Watertown, N. Y. After a course at Gouverneur Wesleyan Seminary, he entered the Wesleyan Methodist ministry and presided over several charges in New York State. Later he matriculated at a medical college and graduated as an M.D. when twenty-six years of age. He practiced medicine for a brief period and then took up dentistry, opening an office in Winona, Minn., about 1856. He removed to Vineland, N. J., in 1865 where he again practiced dentistry. About 1869 he originated a method of preserving grape juice so that it should be absolutely free from alcohol. This liquid was especially designed for church communion and medical uses. This grape juice became very popular and is now well known throughout the world.

Dr. Welch first attracted the attention of the dental profession as the manufacturer of an alloy for amalgam. Shortly after the late Dr. Flagg had announced the new departure, a demand was created for something better in the way of an alloy than what then could be found in dental depots. Dr. Welch had prepared an alloy for his own use, samples of which he distributed to some of his professional friends who were very much pleased with it. This was brought up before the New Jersey State Dental Society of which Dr. Welch was a member at the meeting held in 1878. A resolution was passed requesting Dr. Welch to place on the market an alloy that would be reliable and could be sold at a reasonable price. Dr. Welch then began the manufacture of his gold and platina alloy, and that it was reliable is proven by its quickly becoming and still remaining the standby of many first-class operators notwithstanding the numerous competitors.



He then began the publication of a bi-monthly dental journal mainly as an advertising medium, entitled *ITEMS OF INTEREST*. This first appeared as a folio of four pages in June, 1879. It was made up of items of interest to dentists and as Dr. Welch possessed the rare but happy faculty of quickly discerning, condensing and properly presenting items of interest which he found in dental and other journals, his unpretentious little paper soon made for itself a place in dental literature. With the third number, May, 1881, it became and has ever since continued a monthly magazine. Beginning with volume four the number of pages was increased to sixteen and their size reduced from folio to quarto. The first number of volume five was issued in quarto form, but the February number had appeared as an octavo of forty-eight pages and later the January number was reissued to correspond. The yearly subscriptions of volumes one and two was fifteen cents, volumes three and four, fifty cents, and volume five was raised to one dollar.

While still at Vineland, Dr. Welch enlarged his business to include dental supplies and early in 1881 removed to 1405 Filbert street, Philadelphia, where he opened a dental depot under the firm name of Drs. T. B. Welch & Son. In a few months he removed to 1413 Filbert street. In June, 1885, the firm name was changed to the Welch Dental Co., and in March, 1889, this gave way to the Wilmington Dental Mfg. Co. In July, 1896, this corporation became financially embarrassed and terminated. The journal which Dr. Welch had so long edited passed into the hands of the Consolidated Dental Mfg. Co. Dr. Welch then started the publication of a dental journal on much the same style, entitled *Welch's Dental Journal*, which later in other hands became *The Dental Brief*. Dr. Welch was a ready writer. He earnestly urged the importance of terseness and clearness upon contributors to his journal and set a good example by his own contributions.

Dr. Welch was a strong advocate of total abstinence and took an active part in seeking out and persecuting illegal liquor selling. He was also interested in the so-called spelling reform, substituting phonetic or sound spelling for the arbitrary method in general use.

Dr. Welch possessed a kindly disposition and delighted in doing good. He was a devoted and prominent member of the Methodist Church in Vineland, where he so long resided and where he was buried. After the death of his wife he married Miss Sherburne, of Vineland, in 1895, who survives him. His surviving children are Drs. George and Charles E. Welch, Mrs. Dr. Emma Slade, Mrs. Dr. Thomas, Mrs. Prof. Murray and Mrs. Milo Gould.





Dr. Johnathan Taft.

Whereas, It has pleased the Divine Ruler to call into eternal rest Johnathan Taft, who passed the portals of the great unknown October 15, 1903, after a long and vigorous career of usefulness in the profession; and

Whereas, This Society especially feels his demise from the fact that one-half of the members constituting this body have received a large portion of their early dental knowledge and training directly from his lips; and we further recognize that he was unique in his power to impress upon the pupils who sat under his instruction sound principles of ethics and practice. He was great in his goodness, a characteristic which stands as a shining light for others to see and follow in his footsteps; therefore, be it

Resolved, That the Odontological Society of Chicago hereby testifies to the less experienced by the profession in the death of Dr. Taft, and extends sympathy to the family in their bereavement; also

Resolved, That these resolutions be spread upon the records of this Society, and that a copy be forwarded to the dental journals for publication.

(Signed) J. G. REID,
L. L. DAVIS,
J. W. WASSALL.

Adopted January 12, 1904.

Dr. A. J. Oakey.

Resolutions passed by the Englewood Dental Society.

Through the will of an all-wise Providence, we are called upon to mourn the loss of one of our most beloved members, who, with his two daughters, met death at the Iroquois Theatre fire, Dec. 30, 1903.

Dr. A. J. Oakey began the practice of dentistry in 1889, having graduated that spring from the Chicago College of Dental Surgery. He served his patients faithfully and well. He made himself honored and respected by the dental profession, was an active member in society work, having helped to organize the Englewood Dental Society, and was one of its early presidents. He later served as secretary for the same society a term of two years, and since that time has been active and zealous in promoting its interests and in elevating the standard of his profession.



Resolved, That in the death of Dr. Oakey the members of the Englewood Dental Society have suffered an irreparable loss. Through association with him in the past they had learned to love him as a friend, respect him for his high sense of honor and to look upon him as a consistent Christian man.

Resolved, That an expression of our sympathy and condolence be extended to his bereaved family, especially to his wife who is so bravely and beautifully facing the inevitable.

Resolved, That a copy of these resolutions be placed upon our records, also that copies be sent to the leading dental journals for publication and to the family.

T. ELHANAN POWELL,
W. B. WINGET,
H. O. BROWNING,
Committee.

Dr. M. B. Rimes.

Resolutions passed by the Englewood Dental Society.

Through the Providence of God, whose law controls the destiny of man, the career of Dr. M. B. Rimes, an active member of this society, has been brought to a sudden close. He, with his wife and three children, met death at the calamitous Iroquois Theatre fire, Dec. 30, 1903.

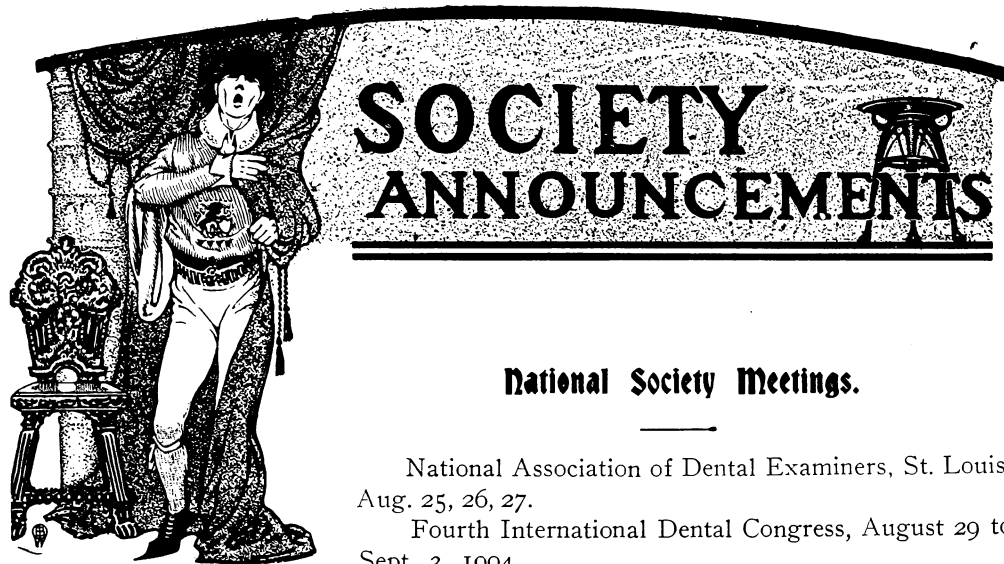
Dr. Rimes began the practice of his profession in Englewood March 1891, after finishing his course in the Chicago College of Dental Surgery. He had a large clientele whose confidence in his ability was amply justified by the results of his efforts. He was jealous for the honor of his profession and was active in promoting its interests. He efficiently served consecutively as secretary and president of the society, and was active in recruiting its membership among the younger men who come to our locality. His life was consistent with his principles and with his ideals, and he was respected and loved by his associates.

Resolved, That we give to the remaining members of his family an expression of our sympathy in their great bereavement.

Resolved, That a copy of these resolutions be made a part of the records of the society and that copies be mailed to the leading dental journals for publication, and to his family.

T. ELHANAN,
W. B. WINGET,
H. O. BROWNING,
Committee.





National Society Meetings.

National Association of Dental Examiners, St. Louis,
Aug. 25, 26, 27.

Fourth International Dental Congress, August 29 to
Sept. 3, 1904.

State Society Meetings.

California State Dental Society, San Francisco, May 16, 17, 18.
Connecticut State Dental Association, Hartford, April 19, 20.
Delaware State Dental Society, February 3.
Florida State Dental Society, Atlantic Beach, May 25.
Georgia State Dental Society, Athens, June 28.
Illinois State Dental Society, Peoria, May 10, 11, 12.
Indiana State Dental Association, Indianapolis, June 28, 29, 30.
Iowa State Dental Society, Des Moines, May 3, 4, 5.
Maine Dental Society, Bangor, July 19, 20, 21.
Minnesota State Dental Association, St. Paul.
Mississippi Dental Association, Jackson, April 19, 20, 21.
New Jersey State Dental Society, Asbury Park, July 21, 22, 23.
New York State Dental Society, Albany, May 13, 14.
North Carolina Dental Society, Morehead City, June 22-25.
Utah Dental Association, Salt Lake City, April 4.
Vermont State Dental Society, Montpelier, March 16, 17, 18.
Washington State Dental Society, Seattle, May 26, 27, 28.
Wisconsin State Dental Society, Manitou, July 19-21.



National Dental Association.

Southern Section.

The next meeting of the Southern Branch of the National Dental Association will be held in Washington, D. C., February 23 to 26 inclusive. The association will meet conjointly with the District of Columbia and Maryland State Dental Associations in response to an invitation from those local organizations.

The opening meeting will be held in Columbian University Hall, Fifteenth, corner H streets, N. W. The clinics and the meetings of the association will be held in the medical and dental department building of Columbian University, between Thirteenth and Fourteenth streets on H street.

The Southeastern Passenger Association grants a rate of one and one-third fare, plus 25 cents from all points south of the Ohio and Potomac and east of the Mississippi. The hotels of Washington have granted reduced rates as follows: New Willard (headquarters), \$2.50 and up, European plan. The Raleigh, \$2 and up, European plan. The Ebbitt, \$3 and up, American plan. The Riggs, \$3 and up, American plan. The Oxford, \$3 and up, American plan. The Hamilton, \$2.50 and \$3.50, American plan.

Ample provision will be made for clinics and exhibits at the University. All practitioners who conduct themselves according to the Code of Ethics are cordially invited to attend.

The following is a partial list of the papers and clinics that have been offered:

PAPERS.

"The Preservation of Temporary Molars and Cuspids." N. N. Vann, Attala, Ala.

A paper from Dr. Milam, Little Rock, Ark. (Subject to be announced.)

"Cavity Lining; Importance and Value in Operative Dentistry." A. C. Hewett, Chicago, Ill.

"The Limitations of Dental Prophylaxis." M. L. Rhein, New York, N. Y.

Paper from L. G. Noel, Nashville, Tenn. (Subject to be announced.)

"The Four-Year Course. Is it Necessary?" H. S. R. Snyder.

"Extensive Bridging After Pyrrhoea." Fred Primrose.

"Porcelain." L. W. Farinholt.



ITEMS OF INTEREST

"The Tactful Management of Young Patients." S. O. Heatherole.
"Oral Sepsis in Childhood With Its Attendant Evils." Bessie B. Bennett.

Paper by the annual essayist J. A. Chapple, of Atlanta, Ga.

"The Two Sources of Tooth Life and Their Relative Importance." S. S. Smith, Philadelphia, Pa.

"The Educational Value of the Study of Dental History, With One Hundred Lantern Slide Illustrations." Chas. McManus, Hartford, Conn.

"Common Mistakes Made in Articulating Full Dentures." E. M. Kettig, Louisville, Ky.

"Something or Other About Chemistry." D. R. Stubblefield, Nashville, Tenn.

"Various Reforms in Prosthodontia." Stewart H. Spence, Chattanooga, Tenn.

"Vulcanite, Various Tests and Results." J. A. Hall, Collinsville, Ala.

Paper from Wm. Donnally, Washington, D. C. (Subject to be announced.)

"Gold Inlays for Contour Work." A. M. Jackson, Macon, Ga.

"Oral Surgical Clinic." G. V. L. Brown, Milwaukee, Wis.
Clinic. W. B. Finney, Baltimore, Md.

"Treatment of Proximate Spaces." C. M. Gingrich, Baltimore, Md.

"Construction of Saddle Bridge." C. J. Grieves.
Clinic. A. C. Bryer.

"Treatment of Sensitive Dentine With the Hurd Gas Apparatus." Joseph Roach.

Clinic. N. T. S. Shields.

"Crib Attachment for Artificial Dentures." H. E. Kelsey.

"Matrices in Plastic Work." T. E. Hardy.

"Education, Duty, Faith." J. H. Crossland, Montgomery, Ala.

CLINICS.

"Changing the Shape and Position of Irregular Teeth in Adults by Means of Silk Twist." Robt. E. Payne, New York.

"Construction of Artificial Vela for Cleft Palates." R. Ottolengui, New York.

"Adhesion of Cement to Porcelain and Dentin." W. V. B. Ames, Chicago, Ill.

"Central Incisor, Mesio-Proximal-Occlusal Angle, Dealing With Flat Surfaces and Angles." T. S. Waters, Baltimore.

"Use of the New Front Tooth Matrix." Wm. Crenshaw, Atlanta.



SOCIETY ANNOUNCEMENTS

"Filling Teeth With Soft and Cohesive Gold in Combination." C. L. Alexander, Charlotte, N. C.

"A Gold Filling." H. D. Harper, Kingston, N. C.

"Filling Cavity on Distal Surface of an Upper Bicuspid." J. S. Betts, Greensboro, N. C.

"Porcelain Inlay." C. A. Romenger, Reidsville, N. C.

Clinic. E. J. Tucker, Roxboro, N. C.

L. G. NOEL, Chairman of Programme Committee.

Eastern Dental Society of the City of New York.

The work of 1904 was well begun by the Eastern Dental Society. The twenty-fourth regular monthly meeting was held on Thursday, Jan. 7, with an exceedingly large attendance. The main feature of the evening was Professor Alfred R. Staar, of the N. Y. C. D., who delivered a lecture on "Treatment of Devitalized Teeth." The members were more than pleased to once more meet their former instructor and listened to a well delivered and very instructive lecture on a subject that is of great interest to the dental profession. Professor Staar spoke over an hour, touching briefly every part of the subject. In speaking of materials used for root fillings he laid special stress on the necessity of being careful in filling root canals of devitalized teeth with non-absorbing materials. He said in part, "Years ago I thought that cotton saturated in creosote was a good filling material, but trouble that followed this method taught me the reverse. What I prefer now are small pieces of gutta percha, which I can carry with an instrument to the very apex of a root, making sure that it reached its destination." In speaking of opening the pulp chamber and cavity for the removal of the pulp he said, "There is a prevailing custom among many dental practitioners to cut away as little as possible of the tooth structure while treating devitalized teeth. I believe it much better to open the tooth freely, remove all the contents, then fill conscientiously, knowing that I have done my best. Is it not better to sacrifice a part of the tooth and make things sure than to work in the dark with all the chances in the world of having trouble in the future?" As a whole the lecture was very instructive and many useful points were brought forth by the eloquent speaker. At the conclusion the lecturer was greatly applauded by the members and a unanimous vote of thanks was extended to him for his good will and readiness in accepting the invitation.

The next regular monthly meeting will be held Feb. 4, 1904.

Jos. SOOKUE, D.D.S., Secy.





New Jersey State Dental Society.

The New Jersey State Dental Society will hold their annual convention in the Auditorium, at Asbury Park, N. J., July 21, 22 and 23 next. The Exhibit Committee are prepared to allot space to exhibitors. All applications should be made direct to the chairman,

DR. W. G. CHASE,
Princeton, N. J.

The American Dental Society of Europe.

The next annual meeting of the American Dental Society of Europe will be held at the Hamburger Hof, Hamburg, Germany, April 1 to 4, 1904.

Wiesbaden, Germany.

DR. CHAS. J. MONK, Secy.

Massachusetts Board of Registration.

The next meeting of the Massachusetts Board of Registration in Dentistry for the examination of applicants will be held in Boston, March 9, 10 and 11, 1904.

Application blanks and all necessary information furnished by the secretary.

G. E. MITCHELL, Secy.,
25 Merrimack Street, Haverhill, Mass.

California Board of Dental Examiners.

The Board of Dental Examiners of California will hold its next examination in San Francisco, commencing on May 23, 1904, and will also hold an examination in Los Angeles, commencing on June 13, 1904.

San Francisco, Cal.

F. C. BAIRD, Secy.

Michigan State Board of Dental Examiners.

The Michigan State Board of Dental Examiners will meet in Grand Rapids, Mich., on the 10th of May, 1904.



District of Columbia Dental Society.

The District of Columbia Dental Society held its annual meeting December 16, 1903, at Rauscher's, where a banquet was given and new officers installed as follows: President, Dr. William D. Monroe; Vice-President, Dr. S. M. Bowles; Corresponding Secretary, Dr. Chas. Diemel; Recording Secretary, Dr. A. J. Brown; Treasurer, Dr. M. F. Finley; Librarian, Dr. H. C. Thompson. A noteworthy feature of the evening was the presentation of a beautiful gold mounted gavel to Dr. W. D. Monroe, the president, by Dr. Emory A. Bryant. The following toasts were responded to, Dr. A. J. Brown acting as toastmaster, "International Dental Congress," by Dr. M. F. Finley; "Dental Education," by Dr. E. A. Bryant; "Our Local Society," by Dr. H. C. Thompson; "The Coming Dental Meeting," by J. H. London; "The Social Dentist," by F. J. Jones; "The Ethical Dentist," by Dr. A. D. Weakley; "The Young Practitioner," by Dr. M. Davis; "Harmony," by Dr. D. N. Rust.

Vermont State Dental Society.

The twenty-eighth annual meeting of the Vermont State Dental Society will be held at Hotel Pavilion, Montpelier, March 16, 17 and 18, 1904. We anticipate a pleasant as well as a profitable meeting, and a cordial invitation is extended to all.

Rutland, Vt.

THOMAS MOUND, Secy.

Seventh District Dental Society of the State of New York.

The thirty-sixth annual meeting of the Seventh District Dental Society of the State of New York will be held at the Osburn House, Rochester, N. Y., on Tuesday and Wednesday, March 29-30, 1904. There will be a number of very good papers on the programme, also a number of clinics. If you have anything that would be of interest to the profession, kindly notify the Business Committee and we will be pleased to place you on the programme.

G. G. BURNS, Chairman, Rochester, N. Y.

I. C. EDINGTON, Rochester, N. Y.,

F. A. GREEN, Geneva, N. Y.

Business Committee.





New Haven Dental Association.

The New Haven Dental Association will hold its annual convention in Harmonic Hall, New Haven, Conn., March 15 and 16. A cordial invitation is extended to all ethical practitioners of dentistry to attend.

New Haven, Conn.

E. FRANK CORY, D.D.S., Secy.

National Association of Dental Examiners.

The annual meeting of the National Association of Dental Examiners will be held in the "Coliseum Building," corner of Thirteenth and Olive streets, St. Louis, Mo., on August 25, 26 and 27.

Postal and telegraph offices in the building. Hotel arrangements are being perfected to accommodate the members.

CHAS. A. MEEKER, Secy. and Treas.

